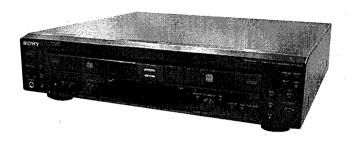
SERVICE MANUAL

Ver 1.1 2003.07

Self Diagnosis

AEP Model **UK Model**



CD Section	Model Name Using Similar Mechanism	NEW	
	CD Mechanism Type	CDM66C-30B61M	
	Base Unit Type	BU-30BBD61M	
	Optical Pick-up Type	A-MAX.4T	
CD-R/CD-RW Section	Model Name Using Similar Mechanism	NEW	
	CD Mechanism Type	CDM65-RBD2	
	Base Unit Type	RBD2	
	Optical Pick-up Type	KRM-220CAA	

SPECIFICATIONS

System

Compact disc digital audio

Laser

System

Semiconductor laser

 $(\lambda = 780 \text{ nm})$ Emission duration:

continuous

Playable discs Frequency response CD, CD-R, CD-RW 20 Hz - 20,000 Hz

Compact disc digital audio

Signal to Noise Ratio

recording section)

(±0.5 dB)

Over 98 dB during play

system

Inputs ANALOG IN

(Phono jacks)

Impedance: 47 kilohms Rated input: 500 mVrms

Minimum input:

250 mVrms

DIGITAL OPTICAL IN

(Square optical connector jack)

Optical wavelength:

660 nm

10 kilohms

Outputs

ANALOG OUT (Phono jacks)

Rated output: 2 Vrms Load impedance: over

DIGITAL OPTICAL OUT

(Square optical connector jack)

Wavelength: 660 nm

Rated output: -18 dBm

Rated output: 12mW

PHONES (Stereo phone jack) Load impedance: 32 ohms

General

Power requirements Power consumption

230 V AC, 50/60 Hz 25 W

Dimensions (approx.)

(w/h/d) incl. projecting parts $430 \times 108 \times 399 \,\mathrm{mm}$

and control

 $(17 \times 4^{3}/8 \times 15^{3}/4 \text{ inch})$

(13 lbs 4 oz)

Supplied accessories

Mass (approx.)

· Audio connecting cords

Phono plug \times 2 (red/white) \longleftrightarrow Phono plug \times 2 (red/white) (2)

- Remote commander (remote) (1)
- R6 (size AA) batteries (2)

Design and specifications are subject to change without notice.

Semiconductor laser Laser $(\lambda = 780 \text{ nm})$ Emission duration: continuous Playable discs CD, CD-R, CD-RW

DECK B (the CD-R and CD-RW

Recordable discs CD-R, CD-RW (for Audio)

20 Hz - 20,000 Hz

(±0.5 dB)

Over 98 dB during play Signal to Noise Ratio

COMPACT DISC RECORDER

9-877-382-02

Frequency response

Sony Corporation

2003G16-1 © 2003.07

Home Audio Company Published by Sony Engineering Corporation SONY

Self-diagnosis Function

When the self-diagnosis function is activated to prevent the player from malfunctioning, three character service numbers in a combination with a message appears in the display. In this case, check the following table.

Message	Explanation	
C12/ Cannot Copy	You are trying to record a disc that cannot be played back in DECK-A or with an external device, such as CD-ROM or VIDEO CD.	
	 Remove the disc, and then insert a music CD for playback. 	
C13/ Rec Error	Recording has not been completed successfully because of vibration.	
	 Relocate the unit in a place free of vibration and restart the recording again. 	
	The disc you try to record is excessively dirty (such as oilstained or finger marked) or scratched. Or the disc is not normal.	
	 Replace the disc with another one and restart the recording again. 	
C14/ TOC Error	The unit did not read the TOC information.	
•	• Insert other discs.	
C41/ Cannot Copy	The sound source you are trying to record is a copy of a commercial music software. Or you are trying to record on a CD-R/CD-RW digitally.	
	 Because of the restriction of the Serial Copy Management System, you cannot record copies of commercial music software or MP3 files on DECK A. Neither can you digitally record from a CD-R/CD-RW. 	
	• Use analog recording through the ANALOG IN jack when you record from other units. Or use Synchro-Recording when you record from DECK A. (The recording mode is automatically changed to analog recording.)	
C71/ Din Unlock	If this message is displayed momentarily, this is not an error. It is caused by the digital signal during recording.	
	During recording of a digital sound source, the connecting cable has been disconnected or the player of the sound source has turned off.	
	 Connect the cable or turn on the digital player. 	

This appliance is classified as a CLASS 1 LASER product. This label is located on the rear exterior.

CLASS 1 LASER PRODUCT LUOKAN 1 LASERLAITE KLASS 1 LASERAPPARAT

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

Flexible Circuit Board Repairing

- Keep the temperature of soldering iron around 270°C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

Unleaded solder

Boards requiring use of unleaded solder are printed with the leadfree mark (LF) indicating the solder contains no lead.

(Caution: Some printed circuit boards may not come printed with the lead free mark due to their particular size.)

LEAD FREE MARK

Unleaded solder has the following characteristics.

- Unleaded solder melts at a temperature about 40°C higher than ordinary solder.
 - Ordinary soldering irons can be used but the iron tip has to be applied to the solder joint for a slightly longer time.
- Soldering irons using a temperature regulator should be set to about 350°C.
- Caution: The printed pattern (copper foil) may peel away if the heated tip is applied for too long, so be careful!
- Strong viscosity
 - Unleaded solder is more viscous (sticky, less prone to flow) than ordinary solder so use caution not to let solder bridges occur such as on IC pins, etc.
- · Usable with ordinary solder
 - It is best to use only unleaded solder but unleaded solder may also be added to ordinary solder.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK & OR DOTTED LINE WITH MARK & ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

TABLE OF CONTENTS

2. GENERAL 5 3. DISASSEMBLY 6 3-1. Case (409538) 7 3-2. Loading Panel (CD) 7 3-3. Loading Panel (CDR) 8 3-4. Front Panel Section 8 3-5. DISP Board 9 3-6. CDR mechanism deck (CDM65-RBD2) 9 3-7. Tray 10 3-8. CDR Board 10 3-9. Holder (MG) Sub Assy, Dust Cover 11 3-10. Optical Pick-up KRM-220CAA 11 3-11. Motor Assy (Loading)(M201) 12 6-14. P
3. DISASSEMBLY 6 6-2. P 3-1. Case (409538) 7 6-4. P 3-2. Loading Panel (CD) 7 6-5. P 3-3. Loading Panel (CDR) 8 6-6. S 3-4. Front Panel Section 8 6-7. S 3-5. DISP Board 9 6-8. S 3-6. CDR mechanism deck (CDM65-RBD2) 9 6-9. S 3-7. Tray 10 6-10. P 3-8. CDR Board 10 6-11. P 3-9. Holder (MG) Sub Assy, Dust Cover 11 6-12. S 3-10. Optical Pick-up KRM-220CAA 11 6-13. S 3-11. Motor Assy (Loading)(M201) 12 6-14. P
3. DISASSEMBLY 6 6-3. S 3-1. Case (409538) 7 6-4. P 3-2. Loading Panel (CD) 7 6-5. P 3-3. Loading Panel (CDR) 8 6-6. S 3-4. Front Panel Section 8 6-7. S 3-5. DISP Board 9 6-8. S 3-6. CDR mechanism deck (CDM65-RBD2) 9 6-9. S 3-7. Tray 10 6-10. P 3-8. CDR Board 10 6-11. P 3-9. Holder (MG) Sub Assy, Dust Cover 11 6-12. S 3-10. Optical Pick-up KRM-220CAA 11 6-13. S 3-11. Motor Assy (Loading)(M201) 12 6-14. P
3-1. Case (409538)
3-2. Loading Panel (CD) 7 6-5. P 3-3. Loading Panel (CDR) 8 6-6. S 3-4. Front Panel Section 8 6-7. S 3-5. DISP Board 9 6-8. S 3-6. CDR mechanism deck (CDM65-RBD2) 9 6-9. S 3-7. Tray 10 6-10. P 3-8. CDR Board 10 6-11. P 3-9. Holder (MG) Sub Assy, Dust Cover 11 6-12. S 3-10. Optical Pick-up KRM-220CAA 11 6-13. S 3-11. Motor Assy (Loading)(M201) 12 6-14. P
3-3. Loading Panel (CDR) 8 6-6. S 3-4. Front Panel Section 8 6-7. S 3-5. DISP Board 9 6-8. S 3-6. CDR mechanism deck (CDM65-RBD2) 9 6-9. S 3-7. Tray 10 6-10. P 3-8. CDR Board 10 6-11. P 3-9. Holder (MG) Sub Assy, Dust Cover 11 6-12. S 3-10. Optical Pick-up KRM-220CAA 11 6-13. S 3-11. Motor Assy (Loading)(M201) 12 6-14. P
3-4. Front Panel Section 8 6-7. S 3-5. DISP Board 9 6-8. S 3-6. CDR mechanism deck (CDM65-RBD2) 9 6-9. S 3-7. Tray 10 6-10. P 3-8. CDR Board 10 6-11. P 3-9. Holder (MG) Sub Assy, Dust Cover 11 6-12. S 3-10. Optical Pick-up KRM-220CAA 11 6-13. S 3-11. Motor Assy (Loading)(M201) 12 6-14. P
3-5. DISP Board
3-6. CDR mechanism deck (CDM65-RBD2) 9 6-9. S 3-7. Tray 10 6-10. P 3-8. CDR Board 10 6-11. P 3-9. Holder (MG) Sub Assy, Dust Cover 11 6-12. S 3-10. Optical Pick-up KRM-220CAA 11 6-13. S 3-11. Motor Assy (Loading)(M201) 12 6-14. P
3-7. Tray 10 6-10. P 3-8. CDR Board 10 6-11. P 3-9. Holder (MG) Sub Assy, Dust Cover 11 6-12. S 3-10. Optical Pick-up KRM-220CAA 11 6-13. S 3-11. Motor Assy (Loading)(M201) 12 6-14. P
3-8. CDR Board
3-9. Holder (MG) Sub Assy, Dust Cover
3-10. Optical Pick-up KRM-220CAA
3-11. Motor Assy (Loading)(M201)
3-11. Motor Assy (Loading)(M201)
3-12. Cam (CH) 6-15. S
3-13. CD mechanism deck (CDM66C-30B61M)13 6-16. Id
3-14. Tray (66)
3-15. BD Board 15
3-16. Optical Block Section
3-17. OP ASSY (A-MAX.41)
3-18. Gear (LB), Gear (LA)
3-19. MAIN Board
7-3. C
4. TEST MODE 18 7-4. C
7-5. C
7-6. B 5. ELECTRICAL ADJUSTMENTS
CD SECTION

О.	DIAGRANIS				
	6-1.	Block Diagrams - CD-R Section	• 54		
		– CD Section –	55		
		- POWER/DISPLAY Section - ·····	- 56		
	6-2.	Printed Wiring Board – BD Section – ·····	- 57		
	6-3.	Schematic Diagram – BD Section – ·····	- 58		
	6-4.	Printed Wiring Board - CD-R Section (Side A)	- 59		
	6-5.	Printed Wiring Board - CD-R Section (Side B)	60		
	6-6.	Schematic Diagram - CD-R Section (1/4)	61		
	6-7.	Schematic Diagram - CD-R Section (2/4)	62		
	6-8.	Schematic Diagram - CD-R Section (3/4)	63		
	6-9.	Schematic Diagram – CD-R Section (4/4) – ······	64		
	6-10.	. Printed Wiring Board - Main Section (Side A) - ······	65		
	6-11.	. Printed Wiring Board - Main Section (Side B) - ······	66		
	6-12.	. Schematic Diagram – Main Section (1/2) – ·····	67		
	6-13.	. Schematic Diagram - Main Section (2/2) - ·····	68		
	6-14.	. Printed Wiring Board - Display Section	69		
	6-15.	. Schematic Diagram – Display Section –	70		
	6-16.	. IC Block Diagrams	71		
	6-17.	IC Pin Function Description	78		
7.	EXP	PLODED VIEWS			
	7-1.	Case Section ·····	88		
	7-2.	Front Panel Section ·····			
	7-3.	Chassis Section ·····			
	7-4.	CD Mechanism Deck Section (CDM65-RBD2)			
	7-5.	· · · · · · · · · · · · · · · · · · ·			
	7-6.	Base Unit Section (BU-30BBD61M)			
0	E1 E	CTRICAL PARTS LIST	0.4		
ο.		.UIDIUAL FARIS LISI	94		

SECTION 1 SERVICING NOTE

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic break-down because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body. During repair, pay attention to electrostatic break-down and also use the procedure in the printed matter which is included in the repain parts.

The flexible board is easily damaged and should be handled with care.

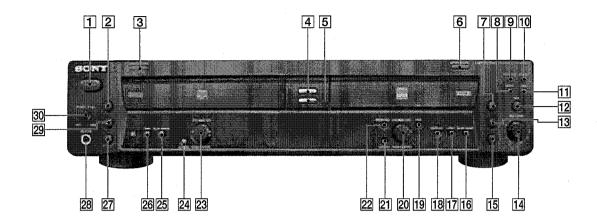
NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens. The emission check enables continuous checking of the S curve.

LASER DIODE AND FOCUS SEARCH OPERATION CHECK

Carry out the "S curve check" in "CD section adjustment" and check that the S curve waveform is output three times.

SECTION 2 GENERAL

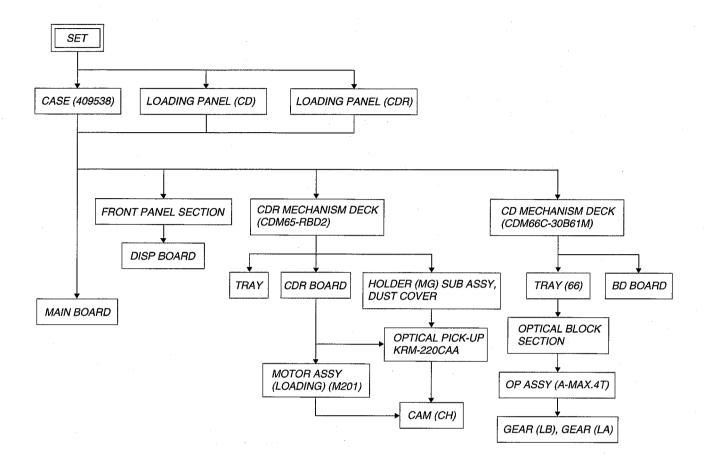


- 1 POWER button
- 2 button
- 3 OPEN/CLOSE button
- 4 CD SYNCHRO NORMAL button
- 5 CD SYNCHRO HIGH button
- 6 OPEN/CLOSE button
- 8 INPUT button
- 9 FINALIZE button
- 10 ERASE button
- 11 SBM button and indicator
- 12 REC button
- 13 II button
- 14 REC LEVEL knob
- 15 **b**utton

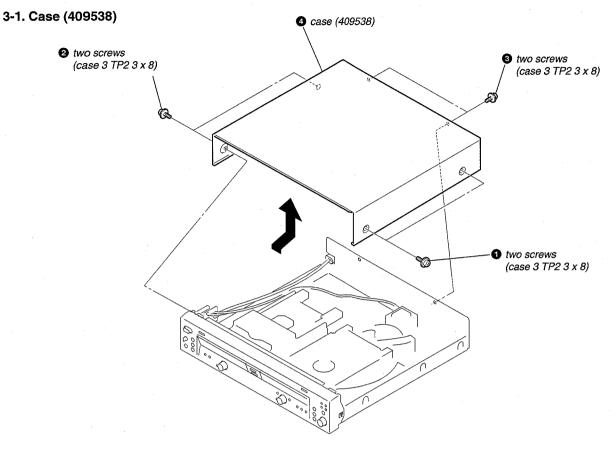
- 16 PLAY MODE button
- 17 TIME button
- 18 DISPLAY button
- 19 YES button
- 20 I⊲⊲ AMS ⊳⊳I knob
- 21 CLEAR button
- 22 MENU/NO button
- 23 I⊲⊲ AMS ⊳⊳I knob
- 24 ALBUM button
- 25 PLAY MODE button
- 26 TIME button
- 27 button
- 28 PHONES jack
- 29 III button
- 30 PHONE LEVEL knob

SECTION 3 DISASSEMBLY

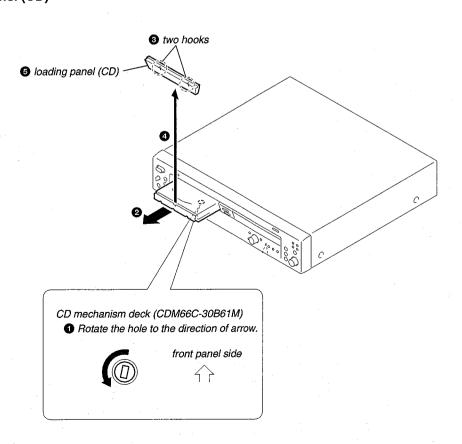
Note: Disassemble the unit in the order as shown below.



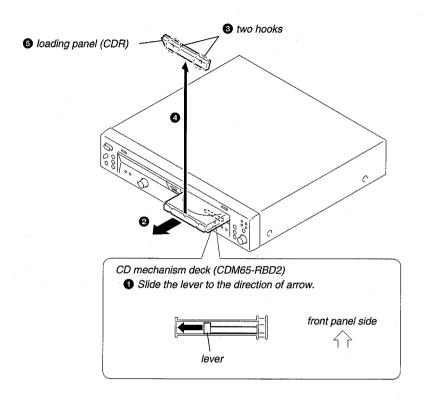
Note: Follow the disassembly procedure in the numerical order given.



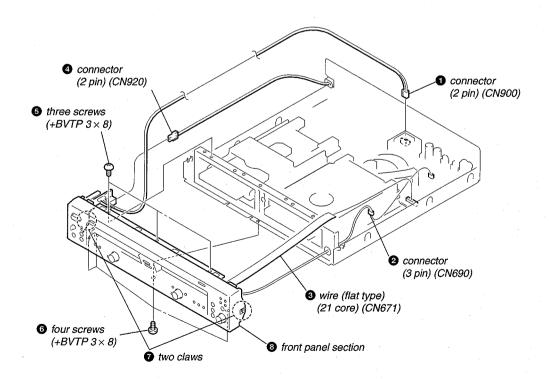
3-2. Loading Panel (CD)



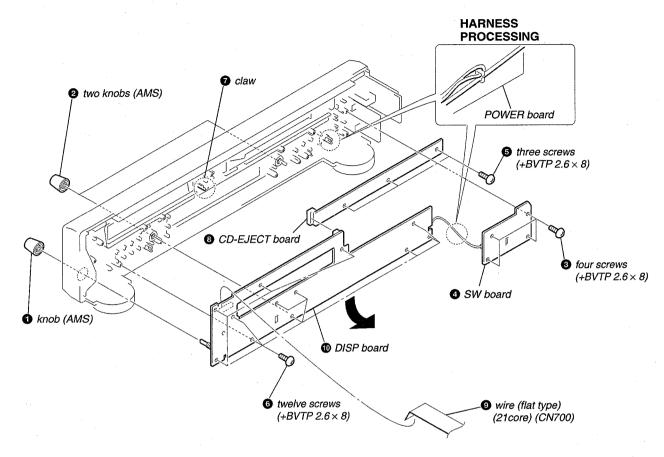
3-3. Loading Panel (CDR)



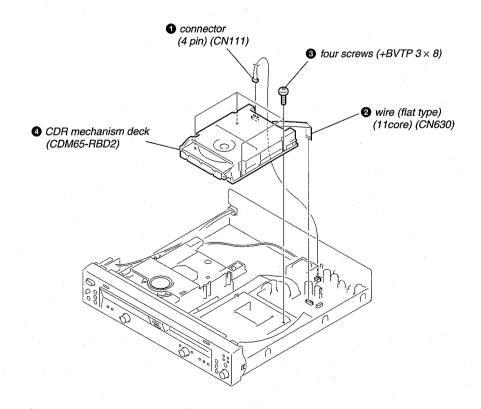
3-4. Front Panel Section



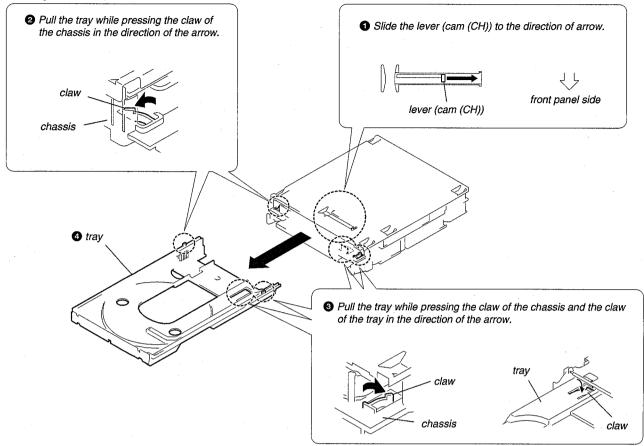
3-5. DISP Board



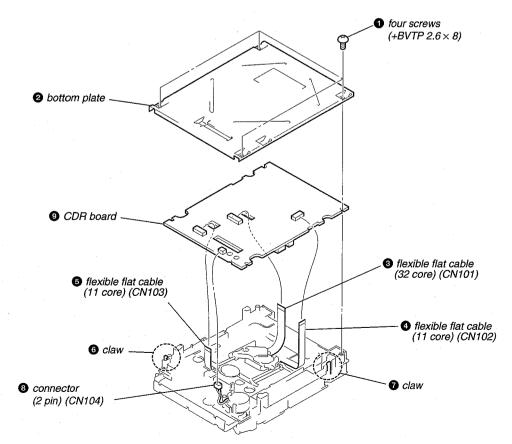
3-6. CDR mechanism deck (CDM65-RBD2)



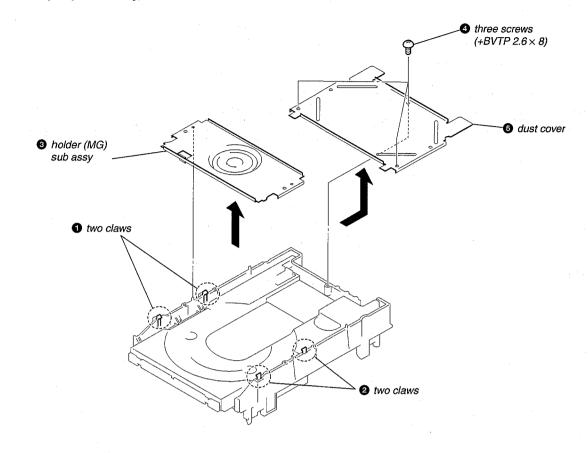
3-7. Tray



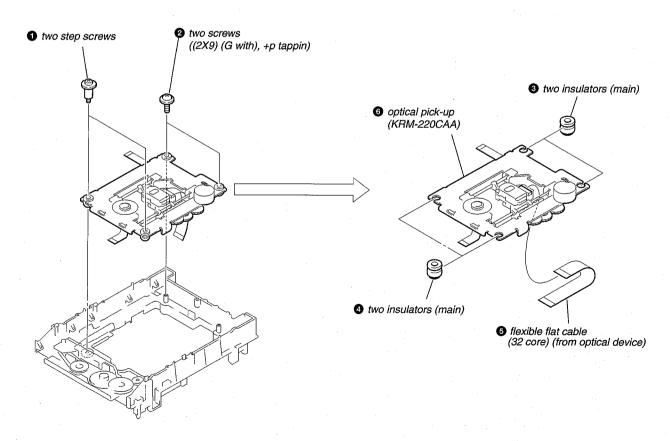
3-8. CDR Board



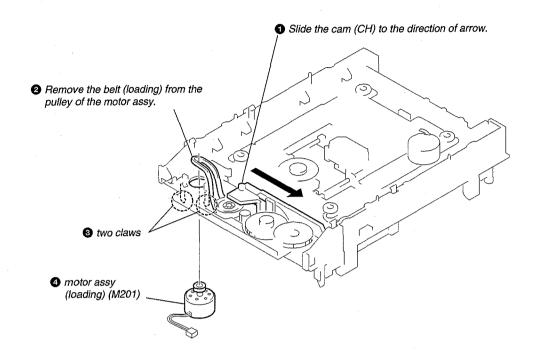
3-9. Holder (MG) Sub Assy, Dust Cover

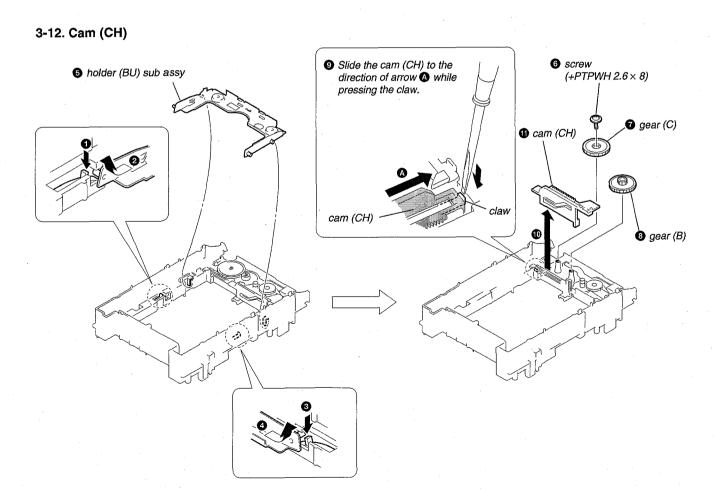


3-10. Optical Pick-up KRM-220CAA

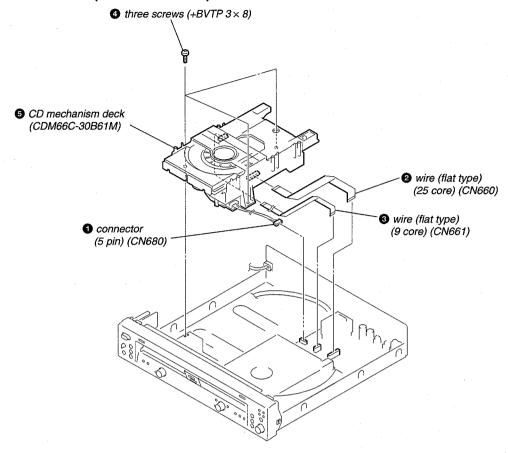


3-11. Motor Assy (Loading)(M201)

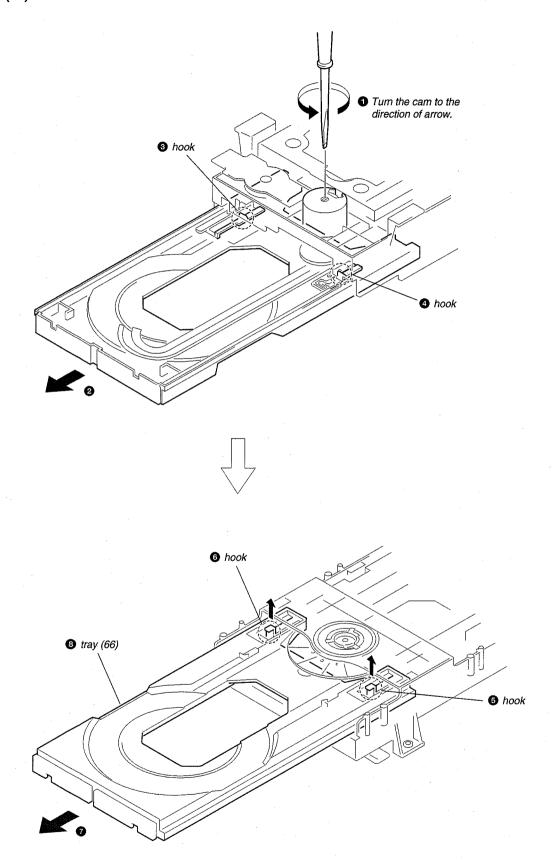




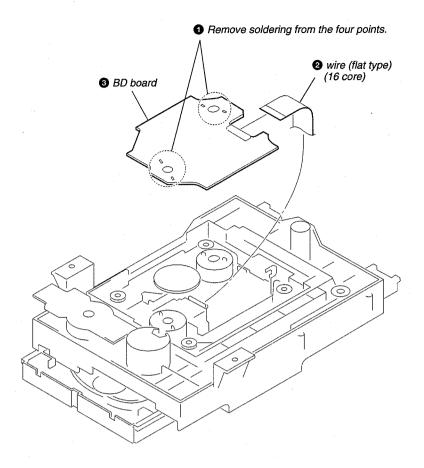
3-13. CD mechanism deck (CDM66C-30B61M)



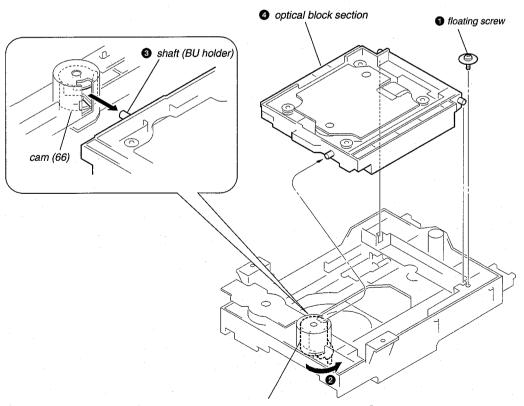
3-14. Tray (66)



3-15. BD Board

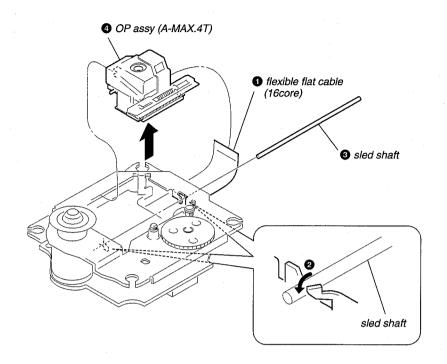


3-16. Optical Block Section

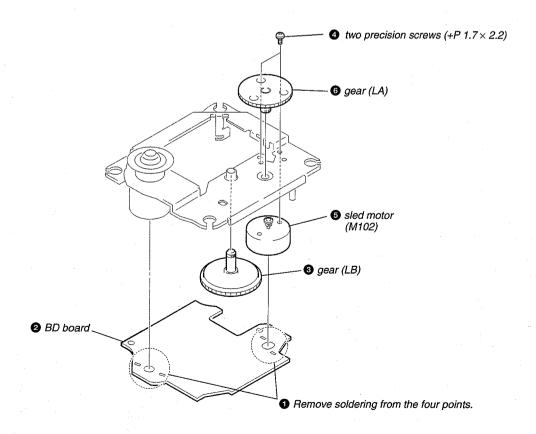


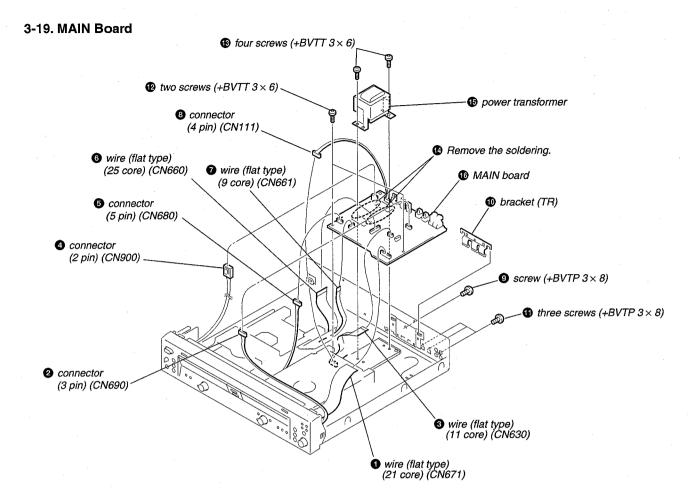
Rotate the cam (66) in the direction of ② to move the shaft (BU holder) upper.

3-17. OP Assy (A-MAX.4T)



3-18. Gear (LB), Gear (LA)





SECTION 4 TEST MODE

Setting the Test Mode

Procedure:

- 1. Press the POWER button to POWER on.
- 2. Press the AMS DD (DECK A), SBM and AMS DD (DECK B) buttons in order without releasing the button.
- 3. Turn the AMS (DECK B) knob to select the menu.
- Press the AMS → (DECK B) knob to execute the test mode.

Releasing the Test Mode

Procedure 1:

- Turn the
 I AMS
 I (DECK B) knob to select the Ship Mode.
- Press the AMS → (DECK B) knob to execute the Ship Mode.
- 3. Press the POWER button to POWER off.

Procedure 2:

- 1. Press the S AMS D (DECK A), SBM and AMS D (DECK B) buttons in order without releasing the button.
- 2. Press the POWER button to POWER off.

Contents of test mode

No.	Display Function			
1	SYS Version	System version display		
2	CDR Version	CDR version display		
3	BU Test	Deck A BU test mode		
4	SERVICE	Deck A Service mode		
5	Ship Mode	CD Shipment mode		
6	FL ALL ON	Fluorescent indicator tube test		
7	FL ALL OFF	Fluorescent indicator tube test		
8	FL ITIMATSU	Fluorescent indicator tube test		
9	LED CHECK	LED check		
10	KEY CHECK	Keyboard check		
11	RM CHECK	Remote commander check		
12	CDR History	CDR error history display		
13	Play Speed	Deck A x4 speed		

System Version Display

Procedure:

- 1. Enter the test mode, then turn the ☐◄☐ AMS ▷▷☐ (DECK B) knob to display "SYS Version", and press the ☐◄☐ AMS ▷▷☐ (DECK B) knob.
- 2. The system version is displayed.
- 3. To exit from this mode, turn the □<□ AMS ▷▷□ (DECK B) knob to display "Ship Mode", and press the □<□ AMS ▷▷□ (DECK B) knob to execute the Ship Mode.
- 4. Press the POWER button to POWER off.

CDR Version Display

Procedure:

- Enter the test mode, then turn the AMS → (DECK B) knob to display "CDR Version", and press the AMS → (DECK B) knob.
- 2. The CDR version is displayed.
- 3. To exit from this mode, turn the AMS DO (DECK B) knob to display "Ship Mode", and press the AMS DO (DECK B) knob to execute the Ship Mode.
- 4. Press the POWER button to POWER off.

BU Test Mode (Deck A)

Procedure:

- 2. "bdt S CURVE" is displayed. This test mode is used in the Electrical Adjustment section.
- 3. Turn the AMS DD (DECK B) knob. "bdt RAM READ", "bdt RAM WRITE", "bdt COMOUT", "bdt FB TUNE" and "bdt ERR RATE" are displayed.
- 4. To exit from this mode, press the MENU/NO button and turn the ✓ AMS ▷▷□ (DECK B) knob to display "bdt ERR RATE".
- 5. Press the AMS D (DECK A), SBM and AMS D (DECK B) buttons in order without releasing the button.
- 6. Press the POWER button to POWER off.

Service Mode (Deck A)

Procedure:

- Enter the test mode, then turn the AMS ▷ (DECK B) knob to display "SERVICE", and press the AMS ▷ (DECK B) knob.
- 2. "SERVICE MODE" is displayed.
- Press the ERASE button, "SLED OUT" is displayed and the sled moves to the outermost direction.
 When the ERASE button is released, "SLED STOP" is displayed

and the sled stops.

- Press the FINALIZE button, "SLED IN" is displayed and the sled moves to the innermost direction.
 When the FINALIZE button is released, "SLED STOP" is displayed and the sled stops.
- 5. To exit from this mode, press the AMS (DECK A), SBM and AMS (DECK B) buttons in order without releasing the button.
- 6. Press the POWER button to POWER off.

Note: Always move the pick-up to the most inside position when exiting from this mode.

Ship Mode

Procedure:

- Enter the test mode, then turn the AMS IDECK B) knob to display "Ship Mode", and press the AMS IDECK B) knob.
- 2. "Push POWER!" is displayed.
- 3. Press the POWER button to POWER off.

FL ALL ON Mode

Procedure:

- 1. Enter the test mode, then turn the AMS → (DECK B) knob to display "FL ALL ON", and press the AMS → (DECK B) knob.
- 2. All segments of fluorescent indicator tube and LED turn on.
- 3. Press the MENU/NO button, then "FL ALL ON" is displayed again.
- 4. To exit from this mode, turn the AMS ▷▷Ⅱ (DECK B) knob to display "Ship Mode", and press the □▷▷□ AMS ▷▷Ⅱ (DECK B) knob to execute the Ship Mode.
- 5. Press the POWER button to POWER off.

FL ALL OFF Mode

Procedure:

- Enter the test mode, then turn the AMS IDECK B) knob to display "FL ALL OFF", and press the AMS IDECK B) knob.
- 2. All segments of fluorescent indicator tube and LED turn off.
- 3. Press the MENU/NO button, then "FL ALL OFF" is displayed
- 4. To exit from this mode, turn the AMS ▷ (DECK B) knob to display "Ship Mode", and press the AMS ▷ (DECK B) knob to execute the Ship Mode.
- 5. Press the POWER button to POWER off.

FL ITIMATSU Mode

Procedure:

- 1. Enter the test mode, then turn the AMS → (DECK B) knob to display "FL ITIMATSU", and press the AMS → (DECK B) knob.
- 2. Checkered patterns of segments are displayed.
- Press the MENU/NO button, then "FL ITIMATSU" is displayed again.
- 4. To exit from this mode, turn the AMS (DECK B) knob to display "Ship Mode", and press the AMS (DECK B) knob to execute the Ship Mode.
- 5. Press the POWER button to POWER off.

LED Check Mode

Procedure:

- Enter the test mode, then turn the AMS I (DECK B) knob to display "LED CHECK", and press the AMS I (DECK B) knob.
- Turn the ► AMS ► (DECK A) or (DECK B) knob clockwise.
- Press the MENU/NO button, then "LED CHECK" is displayed again.
- 4. To exit from this mode, turn the AMS (DECK B) knob to display "Ship Mode", and press the AMS (DECK B) knob to execute the Ship Mode.
- 5. Press the POWER button to POWER off.

KEY Check Mode

Procedure:

- 1. Enter the test mode, then turn the AMS (DECK B) knob to display "KEY CHECK", and press the AMS (DECK B) knob.
- 2. "Got 0 keys" is displayed.
- 3. Press the buttons, and when all the buttons are pressed (without the POWER button), "Got 26 keys" will be displayed.
- 4. To exit from this mode, press the AMS (DECK A), SBM and AMS (DECK B) buttons in order without releasing the button.
- 5. Press the POWER button to POWER off.

Remote Commander Check

Procedure:

- Enter the test mode, then turn the
 IN AMS IN (DECK B)
 knob to display "RM CHECK", and press the IN AMS IN (DECK B) knob.
- 2. Press the key on the remote commander, then "Got PlayCom" is displayed.
- 3. Press the MENU/NO button, then "RM CHECK" is displayed again.
- 4. To exit from this mode, turn the AMS IDECK B) knob to display "Ship Mode", and press the AMS IDECK B) knob to execute the Ship Mode.
- 5. Press the POWER button to POWER off.

CDR History Display

Procedure:

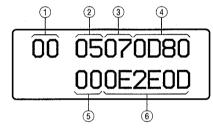
- 1. Enter the test mode, then turn the □✓ AMS ▷▷□ (DECK B) knob to display "CDR History", and press the □✓ AMS ▷▷□ (DECK B) knob.
- 2. "00 ####### ######" is displayed as the first error hitory.
- 3. Turn the AMS (DECK B) knob to select the error history. The number of error histories is ten in all. (Refer to "Contents of CDR error history".)
- Press the MENU/NO button, then "CDR History" is displayed again.
- 5. To exit from this mode, turn the AMS (DECK B) knob to display "Ship Mode", and press the AMS (DECK B) knob to execute the Ship Mode.
- 6. Press the POWER button to POWER off.

Play Speed Selection Mode (Deck A) Procedure:

- 1. Enter the test mode, then turn the AMS ▷▷Ⅱ (DECK B) knob to display "Play Speed", and press the □▷▷□ AMS ▷▷□ (DECK B) knob.
- "x4 Play" is displayed. If a CD is in the deck A, pressing the button executes the 4 times speed playback.
- 3. Press the button to stop the playback.
- Press the MENU/NO button, then "Play Speed" is displayed again.
- 5. To exit from this mode, turn the AMS (DECK B) knob to display "Ship Mode", and press the AMS (DECK B) knob to execute the Ship Mode.
- 6. Press the POWER button to POWER off.

Contents of CDR error history

display(example)



(hexadecimal)

- ① Order of the error history 00 to 09: ten error histories in all
- 2 Error contents
 - 01: unable to focus on
 - 02: Q code/ATIP discontinuous (several frames preceding)
 - 03: O code/ATIP unreadable
 - 04: search taking more than sixteen seconds
 - 05: focus failure
 - 06: sled over run
 - 07: not passing by start time to write
 - 08: audio buffer over
 - 09: sync failure
 - OA: Spindle lock taking more than 8 secouds

example: 05 is focus failure

3 Operation mode

bit 7: Speed

0: normal speed

1: x4 speed

bit 6 to bit 0: Number of inner condition

01: POWER off condition/during shift to POWER on

02: POWER off and shipment setting/during shift to POWER off and shipment setting

03: stop condition/during stop

04: during start up of servo

05: during TOC reading and others

06: during CD TEXT reading

07: during standby(waiting for command from the CD system)/during search

08: during playback

09: during manual search(playback)

0A: during pause

0B: during manual search(pause)

0C: during OPC

OD:recording standby/during recording pause (enable to shift to recording)

0E: during recording

0F: unable to record (waiting for shift to being recordable)

10: PMA updating

11: during operation of unfinalize

12: during operation of finalize

13: PMA erasing

14: emergency

15: recording preparation

16: recording end

examples:

HEX bit	7	6 5 4	3 2 1 0	Operation mode	
07	0	000	0111	normal speed, during standby(waiting for command from the C system)/during search	
91	1	001	0001	x4 speed, during operation of unfinalize	

4 Start time of read in(compression method)

bit 15 to bit 13: (min)

0: 97 min

1: 96 min

2: 95 min

7: others

bit 12 to bit 7: (sec)

bit 6 to bit 0: (frame)

examples:

HEX bit	15 14 13	12 11 10 9 8	7 6 5 4 3 2 1 6	Start time of read in
00.80	000	0 1101	1000 0000	97:27:00
00,00	97(min)	27(sec)	0(frame)	
11,16	000	1 0001	0001 0110	97:34:22
	97(min)	34(sec)	22(frame)	

S Write POWER (integer of mW x 10, available during write processing)

examples: 00 means unavailable

(when ③ operation mode is not recording): A3 means 163(decimal), i.e. 16.3 mW

⑥ ATIME (min)/(sec)/(frame)

example: 0E, 2E, 0D means 14:46:13

Abbreviations:

ATIP: Absolute Time In Pre-groove OPC: Optimum Power Control PMA: Program Memory Area

SECTION 5 ELECTRICAL ADJUSTMENTS

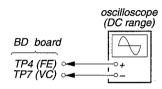
CD SECTION (DECK A)

Note:

- CD Block is basically designed to operate without adjustment. Therefore, check each item in order given.
- 2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
- 3. Use an oscilloscope with more than $10M\Omega$ impedance.
- 4. Clean the object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

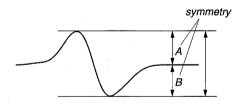
S Curve Check

Connection:



Procedure:

- Connect an oscilloscope to test point TP4 (FE) and TP7 (VC) on the BD board.
- 2. Turn the power on.
- 3. Load the disc (YEDS-18).
- 4. Enter the test mode, select the BU Test and press the AMS ▷▷□ (DECK B) knob to display "bdt S CURVE".
- Press the AMS DO (DECK B) knob. "LD AL" is displayed and playback starts automatically.
- Check the oscilloscope waveform (S-curve) is symmetrical between A and B. And confirm peak to peak level within 3.6 ± 0.5 Vp-p.
- 7. Press the MENU/NO button to stop playback.
- 8. Exit from the test mode.
 (Refer to the TEST MODE Section)

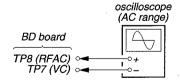


Note: Try to measure several times to make sure than the ratio of A: B or B: A is more than 10: 7.

Checking Location: BD board (Side B)(See page 22)

RF Level Check

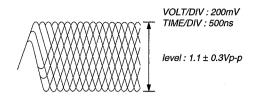
Connection:



Procedure:

- 1. Connect an oscilloscope to TP8 (RFAC) and TP7 (VC).
- 2. Turn the power on.
- 3. Load the disc (YEDS-18) and playback the number five track.
- Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

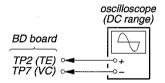
Note: A clear RF signal waveform means that the shape "\$\tilde{0}\$" can be clearly distinguished at the center of the waveform.



Checking Location: BD board (Side B)(See page 22)

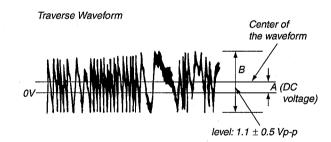
E-F Balance Adjustment

Connection:



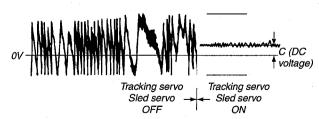
Procedure:

- Connect an oscilloscope to TP2 (TE) and TP7 (VC) on the BD board.
- 2. Turn the power on.
- 3. Load the disc (YEDS-18) and playback the number five track.
- Enter the Service Mode. (see page 18) Press the INPUT button until "TRV ON" is displayed. (The tracking servo and the sledding servo are turned off.)
- Check the level B of the oscilloscope waveform. Rotate the RV101 on the BD board and adjust so that the A (DC voltage) of the center of the traverse waveform becomes 0 volt.



 Press the INPUT button until "TRV OFF" is displayed and the tracking servo and the sledding servo are turned on. Confirm that the C (DC voltage) is almost equal to the A (DC voltage).

Traverse Waveform



7. Exit from the test mode. (see page 18)

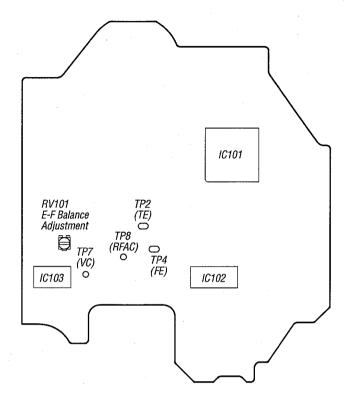
Checking Location: BD board (Side B)(See page 22)

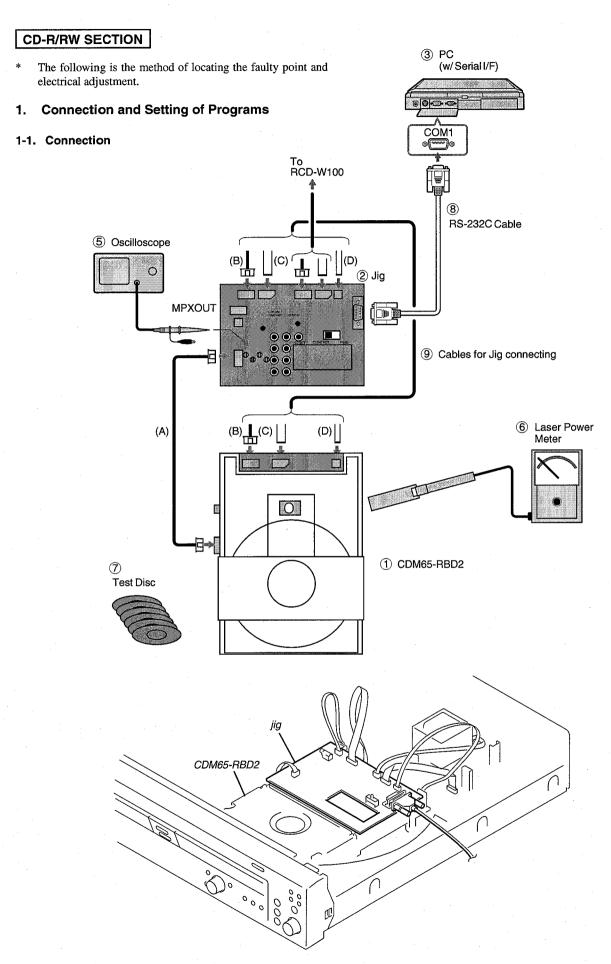
Adjustment at Replacement of CD Base Unit (BU-30BBD61M)

Perform the E-F Balance Adjustment at replacement of CD base unit (BU-30BBD61M).

Adjustment and Checking Location:

[BD BOARD] — SIDE B —





▲ Fig. Position of Jig (Set the jig after removing the cover of CDM65-RBD2)

1-2. Equipments to prepare

① Test Object

Both RBD2 and CDM65-RBD2 shall be tested.

RBD2: Flash Memory Writing of of Circuit Test by Self-diagnostics

CDM65-RBD2: Electrical Adjustment

Performance Test

Jig PC

(With ⁽⁹⁾ Cables, Parts No.J-2501-233-A)

Programs

Windows95/98/2000/Me with COMport (RS-232C) TeraTerm Pro + Service macro

234567 Oscilloscope

More than 150MHz

Laser Power Meter

LEADER LPM-8001 (Parts No.J-2501-046-A)

Test Disc

PATD-012 : (Parts No.4-225-203-1) TCD-W091W: (Parts No.J-2501-226-A)

Adjustment for Playback Adjustment for Playback

(CD,CD-R)

CRM74 (Blank CD-R):

Adjustment and Check for Recording

(CD-RW) (CD-R)

CWM74 (Blank CD-RW):

Check for Recording

(CD-RW)

TCD-W032W: (Parts No.J-2501-227-A)

Defocus tolerance

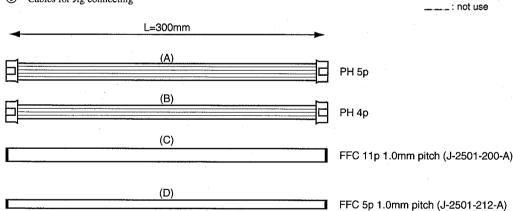
(CD-RW)

RS-232C Cable

L=2000mm (E) D-sub 9pin Female cross cable 3 4 4 5 6 6 8 R

Cables for Jig connecting

: mandatory



1-3. Setting of Programs (Tera Term Pro and Service macro)

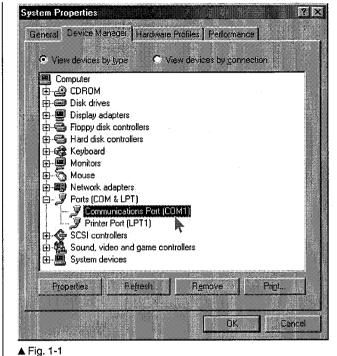
- Confirmation of System (Windows 98 is used in this explanation) Preparation for Terminal software
- Set up the serial port from OS. 1)
- Select Start → Settings → Control Panel and select System → Device manager → Communication Port (COMn) (see Fig. 1-1)
- Specify the COM port that connected with JIG of CDM65.

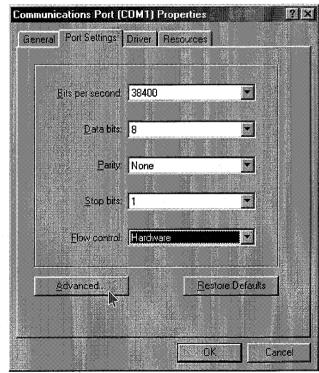
Double click COMn (as you connect to the Jig-CDM65) Set the parameters as below.

Bits per second: 38400 Data bits : 8 Parity : non Stop bits : 1

Flow control : hardware

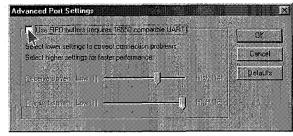
(see Fig.1-2)





▲ Fig. 1-2

Press "Advanced..." button (see Fig.1-2) Remove the check "Use FIFO buffers ..." (see Fig.1-3)



▲ Fig. 1-3

Unzip the file "ttermp231.zip" by PC.

(The file "ttermp231.zip" is distributed together with the service manual.)

After unzip the files, you can find setup.exe.

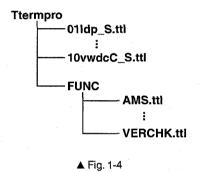
Double click the setup.exe.

Please install as the installer is.

Do not change the directory that files are installed. (use default)

Unzip the file "030416_Service.zip" by PC.

Copy all "ttl" file and "FUNC" folder which are contained in "030416_Service" and paste them in the "Ttermpro" file as below. (The file "030416_Service.zip" is distributed together with the service manual.)



Note: Do not change the directory path.

- Start-up the TeraTermPro Double click the ttermpro.exe.
- Set up the TeraTermPro (IMPORTANT!!)
- Select Setup \rightarrow Serial Port... and set the parameters as below.

Port

: (As you connect to the Jig-CDM65)

Baud rate

: 38400

Data

: 8 bit

Parity

: none

Stop

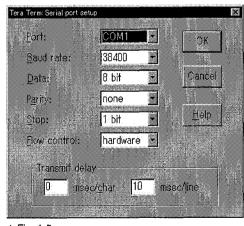
: 1 bit

Flow control

: hardware

Transmit delay : 0 msec/char 10 msec/line

After settings, press "OK" button. (see Fig.1-5)



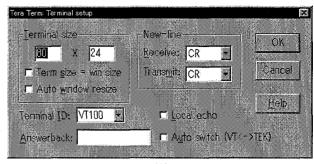
▲ Fig. 1-5

b) Terminal setup Set the parameters as below.

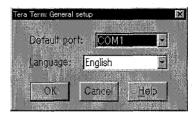
New-line receive: CR transmit: CR

After settings, press "OK" button. (see Fig.1-6)

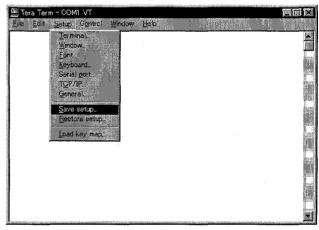
- c) General setup Select the language and press "OK" button. (see Fig.1-7)
- d) Saving the setup
 Select Setup → Save setup... and save as teraterm.ini in the
 Ttermpro directory. (see Fig.1-8)



▲ Fig. 1-6



▲ Fig. 1-7



▲ Fig. 1-8

- 7) Connect the JIG and CDM65.
- 8) Confirm the S510 on JIG is CONTROL'.
- 9) Power on the CDM65 and press SW101(RESET) on JIG.

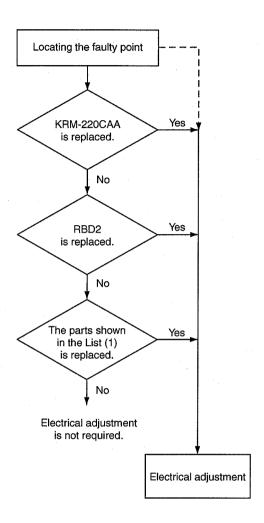
If above message is not displayed, you may have some mistakes. Please confirm previous setting procedures again.



▲ Fig. 1-9

2. Repair Works That Require Electrical Adjustment

In the case of repair works as shown below, electrical adjustment is required.

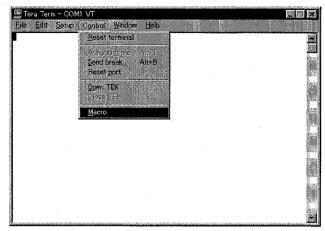


List (1): IC101, IC103, IC171, IC201, IC502

3. Locating the Faulty Point

3-1. Laser Power Check

 Select the menu as follows. Control → Macro, and select LDPtestL_S.ttl. Press "Open". (Fig. 3-1, 3-2)

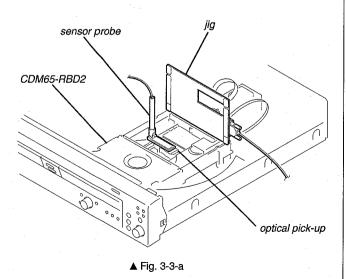


▲ Fig. 3-1



▲ Fig. 3-2

- 2) Press the "RESET" button (SW101) of the jig as prompted by the display.
- 3) Place probe of a laser power meter in the specified position following the display as shown in Fig. 3-3. (See Fig. 3-3-a)



Note: Do not add stress to an optical pick-up.



▲ Fig. 3-3

- 4) When the display shown in Fig. 3-4 appears, set the Range of a laser power meter to "1 mW" and press "OK".
- Check that the laser power meter reading satisfies the following requirement. When the laser power satisfies the required specification, press "OK". (Fig. 3-5)

LEADER LPM-8001: 0.76 to 0.86 mW

- 6) When the display shown in Fig. 3-6 appears, set the Range of a laser power meter to "10 mW" and press "OK".
- Check that the laser power meter reading satisfies the following requirement. When the laser power satisfies the required specification, press "OK". (Fig. 3-7)

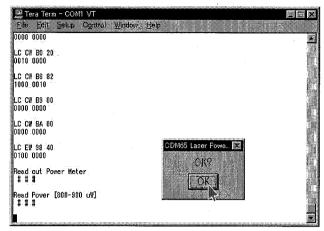
LEADER LPM-8001: 4.5 to 4.7 mW

 Check that the laser power meter reading satisfies the following requirement. When the laser power satisfies the required specification, press "OK". (Fig. 3-8)

LEADER LPM-8001: 9.2 to 9.6 mW



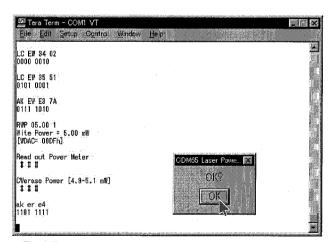
▲ Fig. 3-4



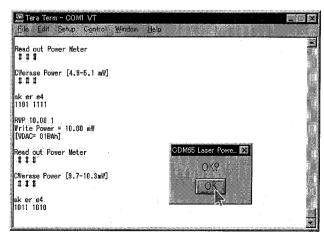
▲ Fig. 3-5



▲ Fig. 3-6



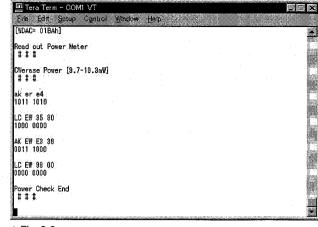
▲ Fig. 3-7



▲ Fig. 3-8

Check that the message "Power Check End" appears on display.
 (Fig. 3-9)

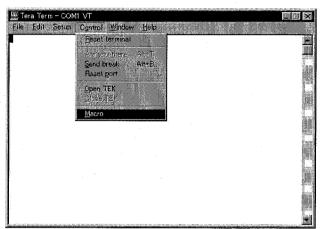
If the measurement result is outside the specification value, either perform Section 4. CDM65-RBD2 Electrical Adjustment, or locate the cause of the error by performing the Laser Deterioration Judgment.



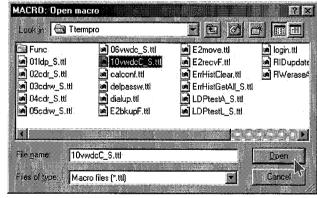
▲ Fig. 3-9

3-2. Laser Deterioration Judgment

 Select the menu as follows. Control → Macro, and select 10vwdcC_S.ttl.
 Press "Open". (Fig. 3-10, 3-11)



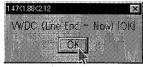
▲ Fig. 3-10



▲ Fig. 3-11

- 2) Press the "RESET" button (SW101) of the jig as prompted by the display.
- When the message [OK] appears as shown in Fig. 3-12, press the "OK" button.
 When the laser unit KRM-220CAA (Op) is normal without

When the laser unit KRM-220CAA (Op) is normal without deterioration of laser, the message [OK] appears. If the laser unit is deteriorated, the message [NG] appears. Then, replace the laser unit KRM-220CAA (Op).



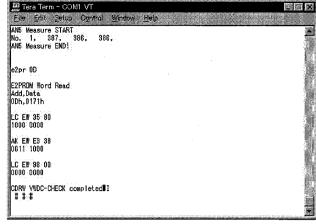
▲ Fig. 3-12

 Check that the message "CDRW VWDC-CHECK completed!" appears. (Fig. 3-13)

NG Judgment Result Indication

When the present VWDC value of the laser unit KRM-220CAA (Op) does not satisfy the required specification, the message "VWDC (Line End - Now) [NG]" appears.

Measure: Check the peripheral of CN101. Replace KRM-220CAA.

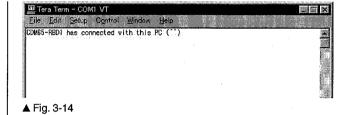


▲ Fig. 3-13

3-3. Use of Self Diagnosis Function-1 (In the case when result data of the past electrical adjustment, is not needed.)

Perform the self diagnosis as described below in the case when electrical adjustment is not performed yet, or when result data of the electrical adjustment in the past, is not needed and ready to be erased.)

- 1) Connect the CDM65-RBD2 (abbreviated as CDM65 hereafter) that is going to be repaired, the jig and a PC following the Connection Diagram as shown in section 1-1.
- 2) Turn on the power of the RCD-W100 in which the CDM65 is installed.
- 3) Start up the TeraTermPro that is installed in PC. Set the switch S510 on the jig to "CONTROL".
- 4) Press the "RESET" button (SW101) of the jig. (Fig. 3-14)

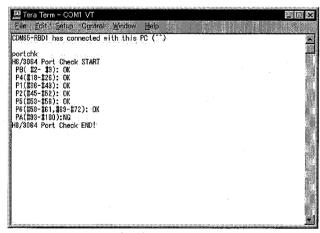


5) Type portchk [Enter] from keyboard of PC. (Fig. 3-15)

- Note 5-1: When the KRM-220CAA is connected, the spindle motor rotates at a high speed. If the message "H8/3064 Port Check END!" appears, press the "RESET" button and stop the spindle.
- Note 5-2: When the CDM65 (loading mechanism) is installed, ignore the message "PA (#93-100): NG".

Confirm that "OK" is displayed in all items except for the cases as described above.

If "NG" is displayed in any item, it is assumed that the pin number of IC501 as shown in Fig. 3-15 is defective or its peripheral has abnormality. Perform the repair work again and repeat the self diagnosis. Repeat the repair work and self diagnosis until OK is displayed.

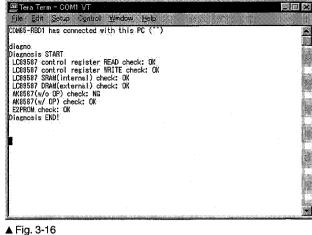


▲ Fig. 3-15

- Type diagno [Enter] from keyboard of PC.
 - Note 6-1: When the KRM-220CAA is connected, the spindle motor rotates at a high speed. If the message "Diagnosis END!" appears, press the "RESET" button and stop the spindle.
 - Note 6-2: When the KRM-220CAA is connected (i.e. when the FFC for optical laser unit is connected to CN101 is connected), ignore the message "AK8567 (w/o OP) check: NG".

Confirm that "OK" is displayed in all items except for the cases as described above.

If "NG" is displayed in any item, it is assumed that the point indicated by the item in Fig. 3-16 is defective or its peripheral has abnormality. Perform the repair work again and repeat the self diagnosis. Repeat the repair work and self diagnosis until "OK" is displayed.

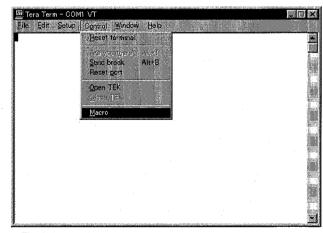


- Perform the operation check.
- 3-4. Use of Self Diagnosis Function-2 (In the case when result data of the past electrical adjustment, should be left saved.)

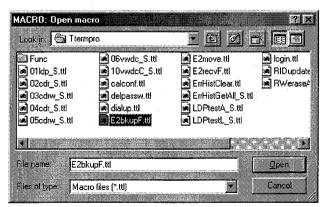
Perform the self diagnosis as described below in the case when the faulty point could not be identified even after completion of the repair work that is defined as "The repair work in which electrical adjustment is not required" in section "2. Repair Works That Require Electrical Adjustment".

Select the menu as follows. Control → Macro, and select E2bkupF.ttl.

Press "Open". (Fig. 3-17, 3-18)



▲ Fig. 3-17

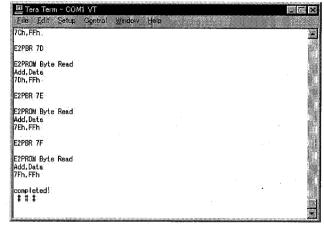


▲ Fig. 3-18

- 2) Type the filename in which result of electrical adjustment is going to be saved. Press "OK". (Fig. 3-19)
- 3) Confirm that the message "completed!" appears. The EEPROM data is backed up. (Fig. 3-20)



▲ Fig. 3-19

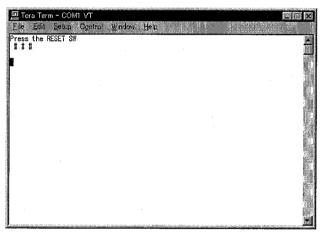


▲ Fig. 3-20

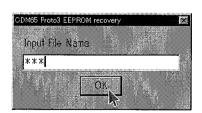
- 4) Perform step 1) through step 6) of section "3-3. Use of Self Diagnosis Function-1".
- Select the menu as follows. Control → Macro, and select E2recvF.ttl. Press "Open".
- 6) Press the "RESET" button (SW101) of the jig as prompted by the display. (Fig. 3-21)

Type the filename in which result of electrical adjustment is

saved. Press "OK". (Fig. 3-22)

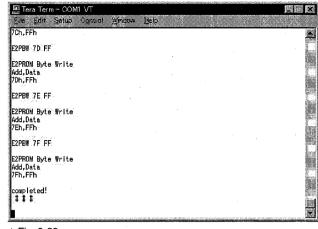


▲ Fig. 3-21



▲ Fig. 3-22

8) Confirm that the message "completed!" appears. The EEPROM data is recovered. (Fig. 3-23)



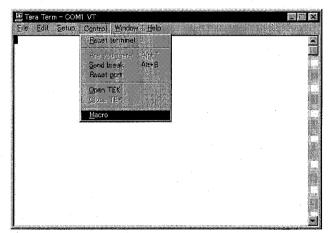
▲ Fig. 3-23

9) Perform the operation check.

3-5. Acquisition of Error History and Acquisition of Elapsed Operating Hours

Check if error has occurred or not by performing the following steps. If error has occurred, it is interpreted and saved in the specific directory. Check contents of the error by viewing the specific directory as described below.

 Select the menu as follows. Control → Macro, and select ErrHistGetAll_S.ttl.
 Press "Open". (Fig. 3-24, 3-25)

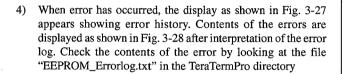


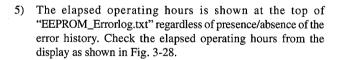
▲ Fig. 3-24

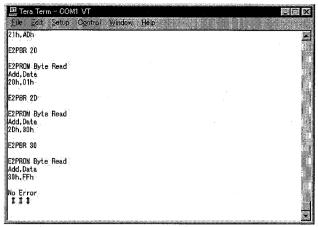


▲ Fig. 3-25

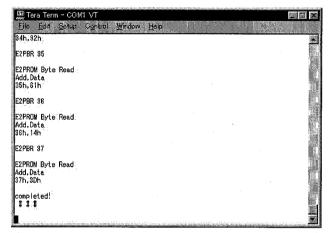
- 2) Press the "RESET" button (SW101) of the jig as prompted by the display.
- 3) When there is no error, the display as shown in Fig. 3-26 appears.







▲ Fig. 3-26



▲ Fig. 3-27

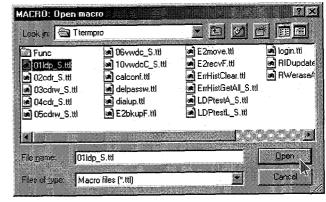
```
SN = xxxx
 Op elapsed time:
                        12:0:56
 Spindle elapsed time: 17:9:44
**** Error Log data(0) ****
Error Pointer= 38
Error Code= 05,04,E0,00,00,01,0D,0D
Focus is dropped
1x speed
Servo wakeup
Lead In Start Time= 7:0:0
Laser Power= 0
ATIME= 1:13:13
**** Error Log data(-1) ****
Error Pointer= 30
Error Code= 05,04,E0,00,00,00,14,43
Focus is dropped
1x speed
Servo wakeup
Lead In Start Time= 7:0:0
Laser Power= 0
ATIME= 0:20:67
```

▲ Fig. 3-28 : Error log example

4. CDM65-RBD2 Electrical Adjustment

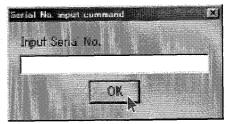
4-1. Laser Power Adjustment

- 1) Start up the TeraTermPro and set the switch S510 on the jig to "CONTROL".
- 2) Select the menu as follows. Control \rightarrow Macro, and select 01ldp_S.ttl. Press "Open". (Fig. 4-1)

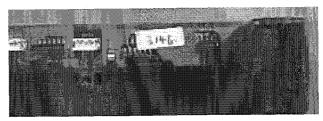


▲ Fig. 4-1

- 3) Press the "RESET" button (SW101) of the jig as prompted by the display.
- 4) Press the "RESET" button (SW101) of the jig again as prompted by the display.
- 5) When the display as shown in Fig. 4-2 appears, type the serial number (see Fig. 4-3) that is printed on the label attached to the RBD2. (This dialog appears only when the EEPROM IC502 is replaced.)



▲ Fig. 4-2



▲ Fig. 4-3



▲ Fig. 4-4



▲ Fig. 4-5

When the display as shown in Fig. 4-4 appears, press "No".

When the display as shown in Fig. 4-5 appears after that, press "Yes".

RCD-W100

- 6) When the display as shown in Fig. 4-6 appears, place the probe of the laser power meter on top of the optical laser unit, and press "OK". (See Fig. 3-3-a, page 29)
- 7) When the display as shown in Fig. 4-7 appears, set the Range of a laser power meter to "1 mW" and press "OK".
- 8) Adjust the laser output power as follows. The laser output power (i.e., laser power meter reading) should satisfy the specification shown below.

LEADER LPM-8001 : 0.81 +/- 0.05 mW (0.76 to 0.86 mW)

- * To increase the laser output power Press [Yes] of the "Up?" dialog box.
- * To decrease the laser output power Press [No] of the "Up?" dialog box and then press [Yes] of the "Down?" dialog box.

Repeat until the laser output power satisfies the specification. (Fig. 4-8, 4-9)

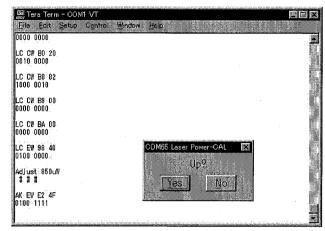
- * When the setting value is determined
 Press [No] of the "Up?" dialog box
 and then press [No] of the "Down?" dialog box
 and press [Yes] of the "Save?" dialog box. (Fig. 4-10)
- 9) When the display shown in Fig. 4-11 appears, set the Range of a laser power meter to "10 mW" and press "OK".



▲ Fig. 4-6



▲ Fig. 4-7



▲ Fig. 4-8



▲ Fig. 4-9



▲ Fig. 4-10



▲ Fig. 4-11

10) Adjust the laser output power as follows. The laser output power (i.e., laser power meter reading) should satisfy the specification shown below.

LEADER LPM-8001: 4.6 +/- 0.1 mW (4.5 to 4.7 mW)

- * To increase the laser output power Press [Yes] of the "Up?" dialog box.
- * To decrease the laser output power Press [No] of the "Up?" dialog box and then press [Yes] of the "Down?" dialog box.

Repeat until the laser output power satisfies the specification. (Fig. 4-12, 4-13)

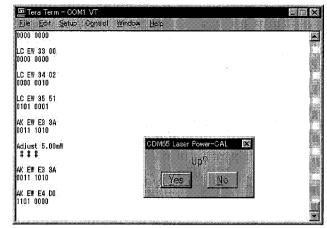
- * When the setting value is determined Press [No] of the "Up?" dialog box and then press [No] of the "Down?" dialog box and press [Yes] of the "Save?" dialog box. (Fig. 4-14)
- 11) Adjust the laser output power as follows. The laser output power (i.e., laser power meter reading) should satisfy the specification shown below.

LEADER LPM-8001: 9.4 +/- 0.2 mW (9.2 to 9.6 mW)

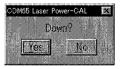
- * To increase the laser output power Press [Yes] of the "Up?" dialog box.
- * To decrease the laser output power Press [No] of the "Up?" dialog box and then press [Yes] of the "Down?" dialog box.

Repeat until the laser output power satisfies the specification. (Fig. 4-15, 4-16)

* When the setting value is determined
Press [No] of the "Up?" dialog box
and then press [No] of the "Down?" dialog box
and press [Yes] of the "Save?" dialog box. (Fig. 4-17)



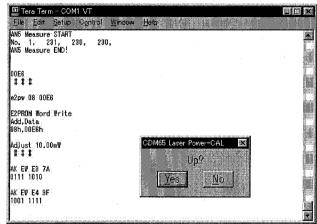
▲ Fig. 4-12



▲ Fig. 4-13



▲ Fig. 4-14



▲ Fig. 4-15



▲ Fig. 4-16



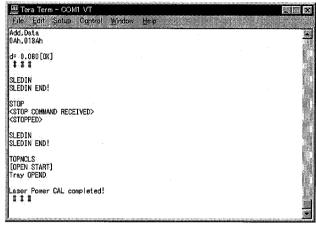
▲ Fig. 4-17

RCD-W100

- 12) When the display shown in Fig. 4-18 appears, remove probe of the laser power meter and press OK.
- 13) Check that the message "Laser Power CAL completed!" appears. (Fig. 4-19)(The tray opens.) NG Judgment Result Indication



▲ Fig. 4-18



▲ Fig. 4-19

4-1-1. Sled Speed NG!

Contents: This message appears when the movement performance of sled is outside the specification.

Measure: Check if there is any abnormality in the sled drive circuit (IC171 peripheral) and the sled drive mechanism.

4-1-2. Power CAL NG!

Contents: This message appears when the laser emission intensity is outside the specification.

Measure: Check peripheral of CN101.

Replace KRM-220CAA.

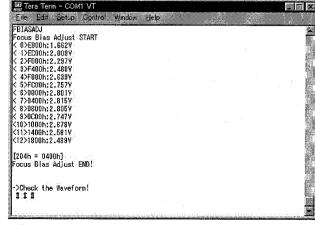
4-2. CD/CD-R Playback Adjustment

- Select the menu as follows. Control → Macro, and select 02cdr_S.ttl. Press "Open".
- Place the test CD disc PATD-012 on the tray as prompted by the display and press "OK". (Fig. 4-20)(The tray closes.)



▲ Fig. 4-20

- 3) Press the "RESET" button (SW101) of the jig as prompted by the display.
- 4) As prompted by the message shown in Fig. 4-21, check that the waveform as shown in Fig. 4-22 appears on an oscilloscope.

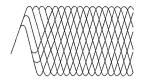


▲ Fig. 4-21

Note: The clear RF signal waveform means that the shape "\$\Delta\$" can be clearly distinguished at the center of the waveform.

RF signal waveform

VOLT/DIV : suitable value TIME/DIV : 500ns

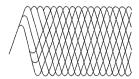


▲ Fig. 4-22

5) As prompted by the message shown in Fig. 4-24, check that the waveform as shown in Fig. 4-23 appears on an oscilloscope.

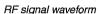
RF signal waveform

VOLT/DIV : suitable value TIME/DIV : 500ns

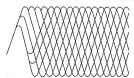


▲ Fig. 4-23

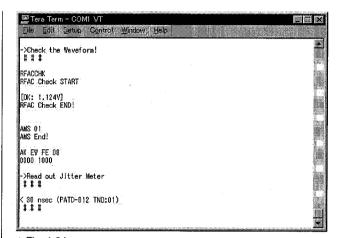
6) As prompted by the message shown in Fig. 4-26, check that the waveform as shown in Fig. 4-25 appears on an oscilloscope.



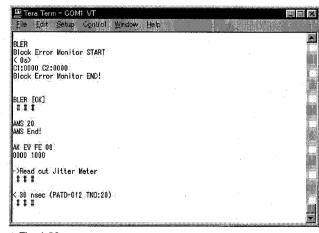
VOLT/DIV : suitable value TIME/DIV : 500ns



▲ Fig. 4-25



▲ Fig. 4-24



▲ Fig. 4-26

7) Check that the message "CDR PB-CAL completed!" appears. (The tray opens.)

NG Judgment Result Indication

4-2-1. Playback Measurement NG!

Contents: This message appears when the BLER (Block Error Rate) during playback is outside the specification.

Measure: Check if there is any abnormality in RBD2.

Replace KRM-220CAA.

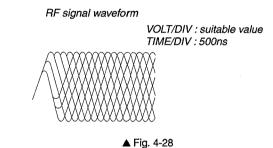
4-3. CD-RW Playback Adjustment

- Select the menu as follows. Control → Macro, and select 03cdr_S.ttl. Press "Open".
- Place the test CD TCD-W091W on the tray as prompted by the display and press "OK". (Fig. 4-27)(The tray closes.)

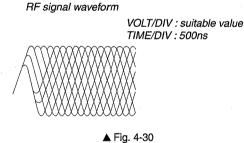


▲ Fig. 4-27

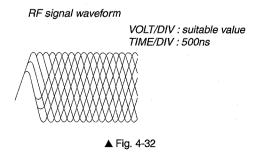
- 3) Press the "RESET" button (SW101) of the jig as prompted by the display.
- 4) As prompted by the message shown in Fig. 4-29, check that the waveform as shown in Fig. 4-28 appears on an oscilloscope.

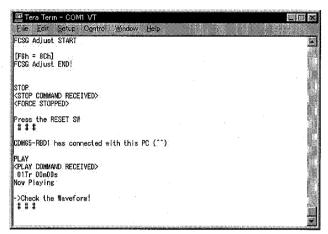


5) As prompted by the message shown in Fig. 4-31, check that the waveform as shown in Fig. 4-30 appears on an oscilloscope.

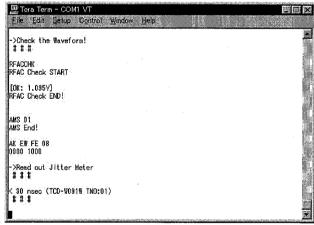


6) As prompted by the message shown in Fig. 4-33, check that the waveform as shown in Fig. 4-32 appears on an oscilloscope.

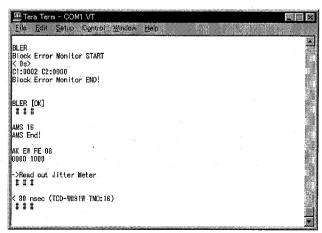




▲ Fig. 4-29

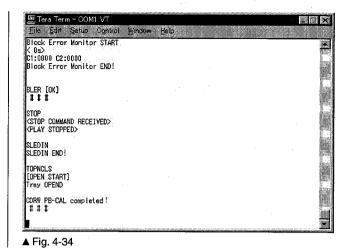


▲ Fig. 4-31



▲ Fig. 4-33

 Check that the message "CDRW PB-CAL completed!" appears. (Fig. 4-34)(The tray opens.)



NG Judgment Result Indication

4-3-1. Playback Measurement NG!

Contents: This message appears when the BLER (Block Error Rate) during playback is outside the specification.

Measure: Check if there is any abnormality in RBD2.

Replace KRM-220CAA.

4-4. CD-R Recording Adjustment and Self Record/Playback Check

- 1) Select the menu as follows. Control \rightarrow Macro, and select 04cdr_S.ttl. Press "Open".
- Place the test CD disc PATD-012 on the Deck A. Place the recording CD-R disc (see Note: 4-4-1) on the tray (Deck B) as prompted by the display and press "OK". (Fig. 4-35) (The tray closes.)

Note: 4-4-1 The disc to be used in this step.

- Use the CD-R disc CRM74 for audio, that is manufactured by Sony.
- * The disc that is used by this step cannot be used for the general purposes and for the purpose of operation check of the RCD series equipment. The disc that is used for the general purposes or for the purpose of operation check of the RCD series equipment, cannot be used in this step.
- * If the recording is interrupted by any reasons during the recording operation (i.e., the WRITE POWER ON LED of the jig is lighting), the disc cannot be used any more in the subsequent step. Use the un-used brand new disc and repeat this step from the very beginning again.
- 3) When the disc that is used in step 2) is the disc that has been used in the electrical adjustment in the past...... Press "Yes".

When the disc that is used in step 2) is a completely blank disc. Press "No". (Fig. 4-36)

Note: The recording CD-R disc can be used only for the electrical adjustment. The recording CD-R disc must be controlled so that it must not be used for any other applications.

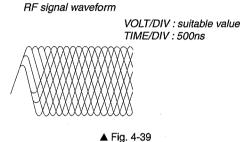


▲ Fig. 4-35

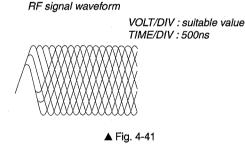


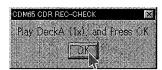
▲ Fig. 4-36

- 4) Press the button of Deck A. After playback starts, press "OK". (Fig. 4-37)
- 5) When the message as shown in Fig. 4-38 appears some seconds later, stop playback (1X) and select 4x of the test mode (refer to page 19, Play Speed Selection Mode (Deck A)) Playback Speed. Then press the button of Deck A. After playback starts, press "OK".
- 6) As prompted by the message shown in Fig. 4-40, check that the waveform as shown in Fig. 4-39 appears on an oscilloscope.

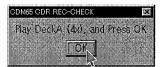


7) As prompted by the message shown in Fig. 4-42, check that the waveform as shown in Fig. 4-41 appears on an oscilloscope.

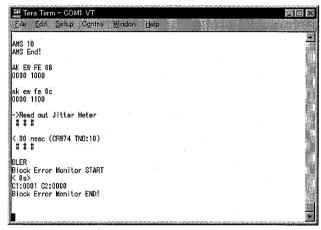




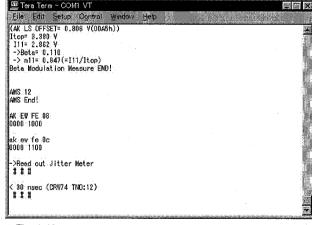
▲ Fig. 4-37



▲ Fig. 4-38



▲ Fig. 4-40



▲ Fig. 4-42

8) Check that the message "CDR REC-CHECK completed!" appears. (The tray opens.) Stop playback (4X) and exit from the test mode (Deck A). (refer to page 19.) NG Judgment Result Indication

4-4-1. CD-R Playback Measurement NG!

Contents: This message appears when the BLER (Block Error Rate) *Beta/m11 of the track that is recorded and played back, is outside the specification.

Measure: Check if there is any abnormality in RBD2.

Replace KRM-220CAA.

4-5. CD-RW Recording Adjustment and Self Record/Playback Check

- Select the menu as follows. Control → Macro, and select 05cdrw_S.ttl. Press "Open".
- Place the test CD disc PATD-012 on the Deck A. Place the recording CD-RW disc (see Note: 4-5-1) on the tray (Deck B) as prompted by the display and press "OK". (Fig. 4-43) (The tray closes.)

Note: 4-5-1 The disc to be used in this step.

- * Use the CD-RW disc CWM74 for audio, that is manufactured by Sony.
- * The disc that is used by this step cannot be used for the general purposes and for the purpose of operation check of the RCD series equipment as it is. The disc that is used for the general purposes or for the purpose of operation check of the RCD series equipment, cannot be used in this step.

When you want to use the CD-RW disc for other applications, erase the CD-RW disc.

- * If the recording is interrupted by any reasons during the recording operation (i.e., the WRITE POWER ON LED of the jig is lighting), the disc cannot be used any more in the subsequent step. In such a case, erase the CD-RW disc and repeat this step from the very beginning again.
- 3) When the disc that is used in step 2) is the disc that has been used in the electrical adjustment in the past...... Press "Yes".

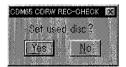
When the disc that is used in step 2) is a completely blank disc. Press "No". (Fig. 4-44)

Note: The recording CD-RW disc can be used only for the electrical adjustment. The recording CD-RW disc must be controlled so that it must not be used for any other applications.

- 4) Press the button of Deck A. After playback starts, press "OK". (Fig. 4-45)
- 5) When the message as shown in Fig. 4-46 appears some seconds later, stop playback (1X) and select 4x of the test mode (refer to page 19, Play Speed Selection Mode (Deck A)) Playback Speed. Then press the button of Deck A. After playback starts, press "OK".



▲ Fig. 4-43



▲ Fig. 4-44



▲ Fig. 4-45

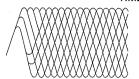


▲ Fig. 4-46

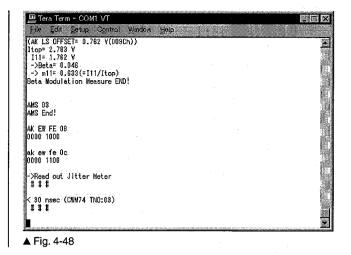
6) As prompted by the message shown in Fig. 4-48, check that the waveform as shown in Fig. 4-47 appears on an oscilloscope.

RF signal waveform

VOLT/DIV : suitable value TIME/DIV : 500ns



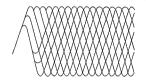
▲ Fig. 4-47



7) As prompted by the message shown on display, check that the waveform as shown in Fig. 4-49 appears on an oscilloscope.

RF signal waveform

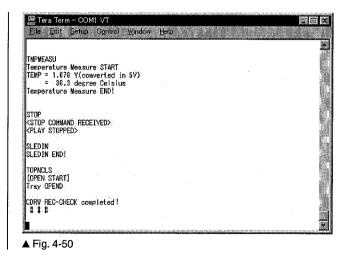
VOLT/DIV : suitable value TIME/DIV : 500ns



▲ Fig. 4-49

8) Check that the message "CDRW REC-CHECK completed!" appears. (Fig. 4-50)(The tray opens.) Stop playback (4X) and exit from the test mode (Deck A). (refor to page 19.)

NG Judgment Result Indication



4-5-1. CD-RW Playback Measurement NG!

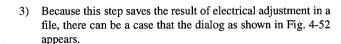
Contents: This message appears when the BLER (Block Error Rate) *Beta/m11 of the track that is recorded and played back, is outside the specification.

Measure: Check if there is any abnormality in RBD2.

Replace KRM-220CAA.

4-6. VWDC Check

- 1) Select the menu as follows. Control \rightarrow Macro, and select 06vwdc_S.ttl. Press "Open".
- 2) As prompted by the message shown in Fig. 4-51, remove the disc from the tray and press "OK".

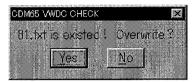


 Check that the message "CDRW VWDC-CHECK completed!" appears. (Fig. 4-53)

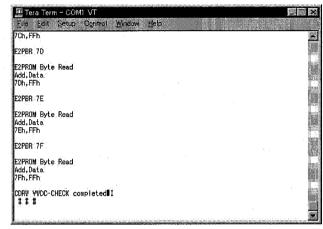
NG Judgment Result Indication



▲ Fig. 4-51



▲ Fig. 4-52



▲ Fig. 4-53

4-6-1. EEPROM Write NG!

Contents: This message appears when writing data into EEPROM fails.

Measure: When the steps of 01ldp_S.ttl through 05cdrw_S.ttl have no problem and the error occurs only in this step, it is assumed that an error has occurred momentarily in the interface between PC and CDM65. Therefore, repeat execution of 06vwdc_S.ttl again.

4-6-2. VWDC judge [Line Top - End] [NG]

Contents: This message appears when the VWDC value is outside the specification.

Measure: It is assumed that the optical laser unit has deteriorated. If this error occurs after the KRM-220CAA is replaced, the adjustment error in the step of 01ldp_S.ttl is assumed. Therefore, repeat execution of steps of 01ldp_S.ttl through 05cdrw_S.ttl again. In the cases other than above, check if the laser power adjustment is correctly performed or not, using LDPtestL_S.ttl.

RCD-W100

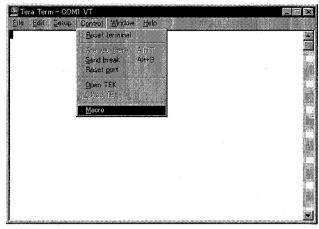
4-7. NG Message List

Cause
The tray has not opened within the specified time.
The tray has not closed within the specified time.
The sled has not moved toward inner circumference within the specified time.
The sled has not moved toward outer circumference within the specified time.
The RID information could not be read out within the specified time.
The SN (1) information could not be read out within the specified time.
The SN (2) information could not be read out within the specified time.
The SN (3) information could not be read out within the specified time.
The Focus Bias Adjustment has not completed within the specified time.
The FE Offset Adjustment has not completed within the specified time.
The FE Amplitude Adjustment has not completed within the specified time.
The RFAC amplitude is abnormal or the adjustment has not completed within the specified time.
The Read Power (during Write1) Adjustment has not completed within the specified time.
The Read Power (during Write2) Adjustment has not completed within the specified time.
The Servo Setting has not completed within the specified time.
The ATIME Search has not completed within the specified time.
The Play operation has not started within the specified time.
The Stop operation has not completed within the specified time.
The AMS operation has not completed within the specified time.
The ATIP Play operation has not started within the specified time.
The record-end track information could not be obtained within the specified time.
The record-end time information could not be obtained within the specified time.
The illegal record-end track and its time information were obtained.
The disc exceeding the allowable limit is used.
The equipment could not be synchronized with the signal connected to DIN2.
The CD-R Write Power setting has not completed within the specified time.
The CD-RW Write Power setting has not completed within the specified time.
The record operation could not be started within the specified time.

5. Operation Check

5-1. Erasing the Error History

 Select the menu as follows. Control → Macro, and select ErrHistClear.ttl.
 Press "Open". (Fig. 5-1, 5-2)

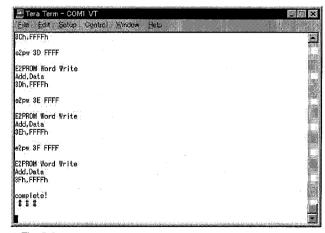


▲ Fig. 5-1



▲ Fig. 5-2

- 2) Press the "RESET" button (SW101) of the jig as prompted by the display.
- 3) Check that the message "completed!" appears. (Fig. 5-3)



▲ Fig. 5-3

RCD-W100

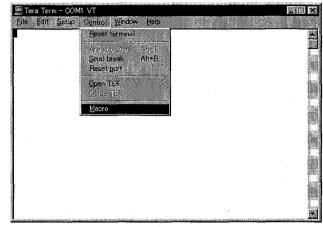
5-2. Playback Check using TCD-W032W

- Install the CDM65 in the equipment and install the TCD-W032W in Deck B.
 Rotate the AMS AMS I (Deck B) knob to select the track 16. Start playback by pressing the same knob or by pressing the □ (Deck B) button.
- 3) Perform playback for 10 seconds or more and confirm that there is no abnormality such as sound skipping and others.

Supplementary Information

Method to Erase the CD-RW Disc

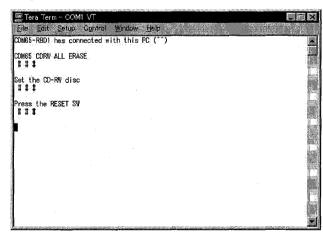
- * Erase it in the following procedure, to reuse the CD-RW disc to electrical adjustment, or to use a disc other than blank.
- * Be sure to erase it in the following procedure, to use the disc used for electrical adjustment for other uses.
- Select the menu as follows. Control → Macro, and select RWeraseA.ttl.
 Press "Open". (Fig. A-1, A-2)



▲ Fig. A-1



▲ Fig. A-2

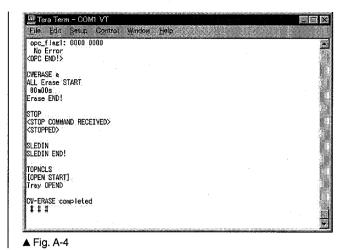


▲ Fig. A-3

2) Press the "RESET" button (SW101) of the jig as prompted by the display. (Fig. A-3)

RCD-W100

3) Check that the time display as shown by the arrow mark in Fig. A-4 is updated after a while.



dle is stopped press the STOP button (SW501) of the Jig and then

4) When update of time display is stopped and rotation of spindle is stopped, press the STOP button (SW501) of the Jig, and then press the EJECT button (SW508) of the jig to remove the disc.

SECTION 6 DIAGRAMS

THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS. (In addition to this necessary note is printed in each block.)

For schematic diagrams.

Note:

- All capacitors are in μF unless otherwise noted. p : pF. 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $^{1/4}W$ or less unless otherwise specified.
- \triangle : internal component.
- _____ : panel designation.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.

Replace only with part number specified.

- ---- : B+ Line.
- --- : B- Line.
- _____ : adjustment for repair.
- Voltages and waveforms are dc with respect to ground under nosignal (detuned) conditions.
 No mark: STOP
- Voltages are taken with a VOM (Input impedance 10 $M\Omega).$ Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
 Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.

: CD-R PLAY (ANALOG OUT)
: CD-R REC (ANALOG IN)

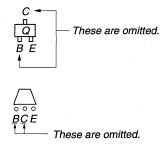
CD-R REC (CD)

For printed wiring boards.

Note:

- • ----: parts extracted from the component side.
 - : parts extracted from the conductor side.
- O: Through hole.
- Pattern from the side which enables seeing. (The other layers' patterns are not indicated.)

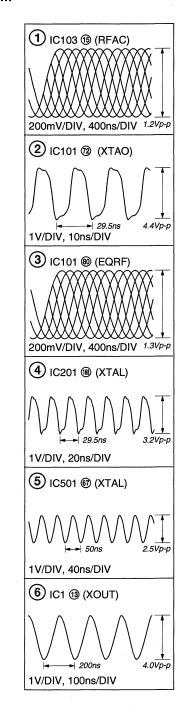
• Indication of transistor



Caution:
Pattern face side:
(Conductor B)
Parts face side:
(Component A)

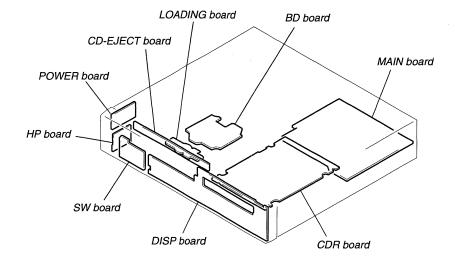
Parts on the pattern face side seen from the pattern face are indicated.
Parts on the parts face side seen from the parts face are indicated.

Waveform

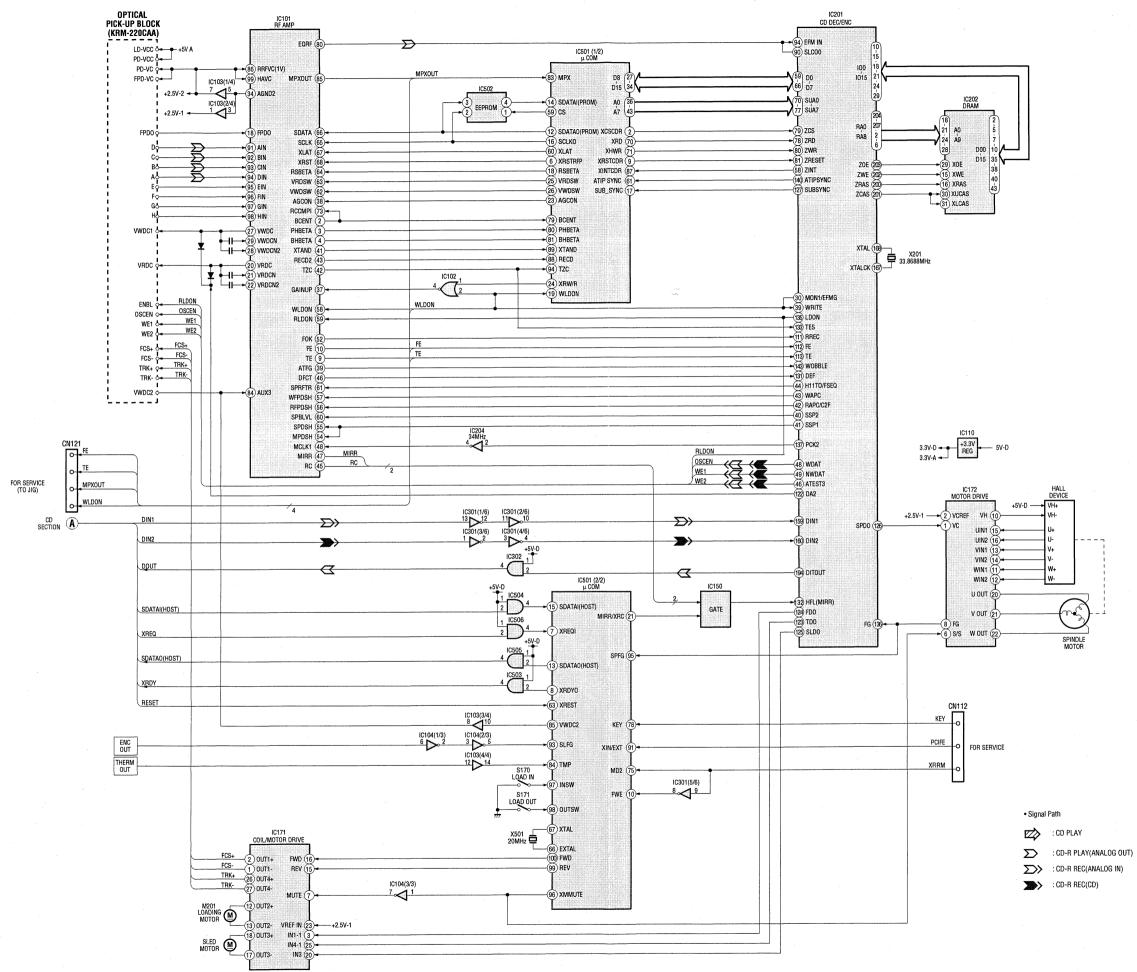


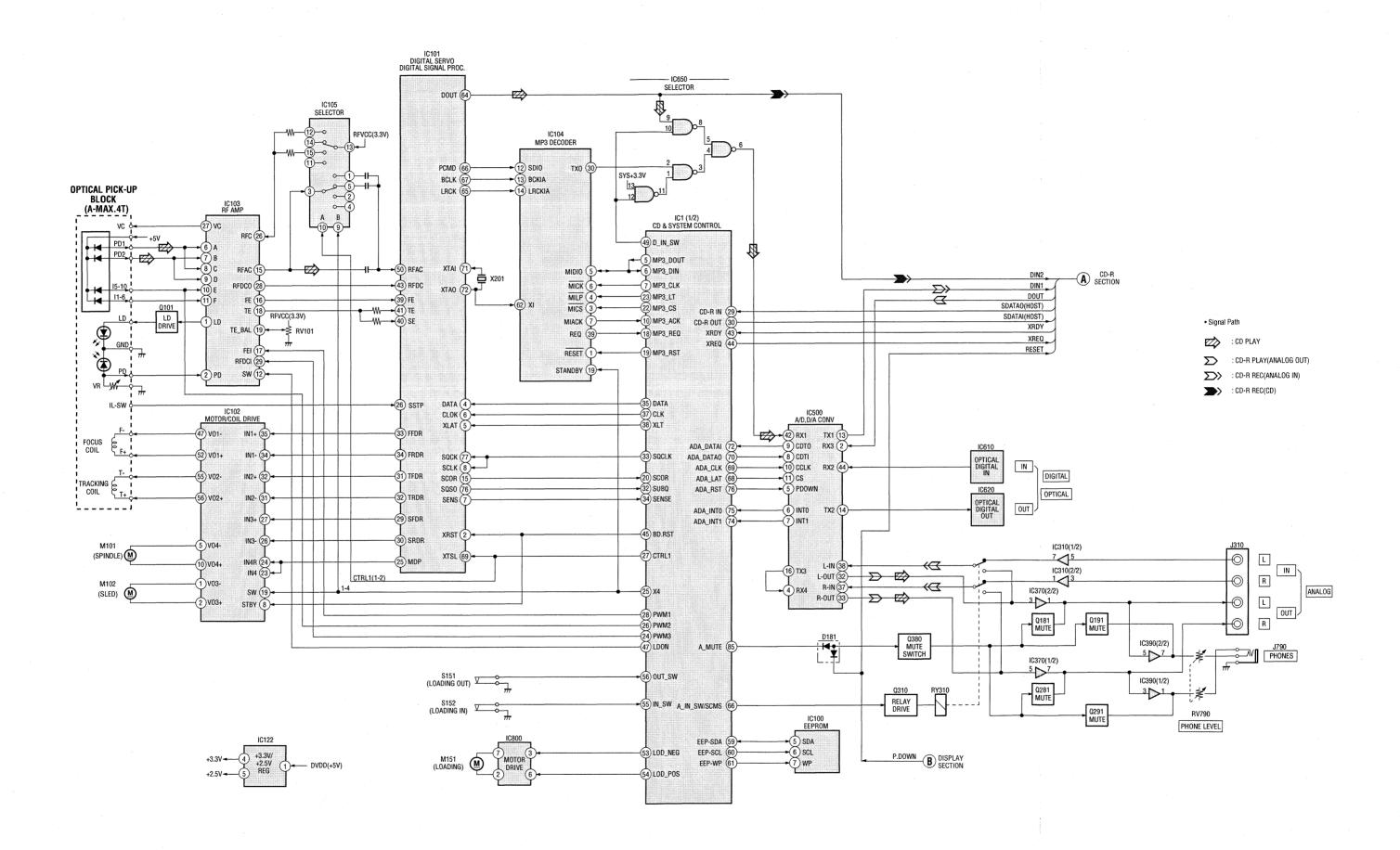
RCD-W100

• Circuit Boards Location



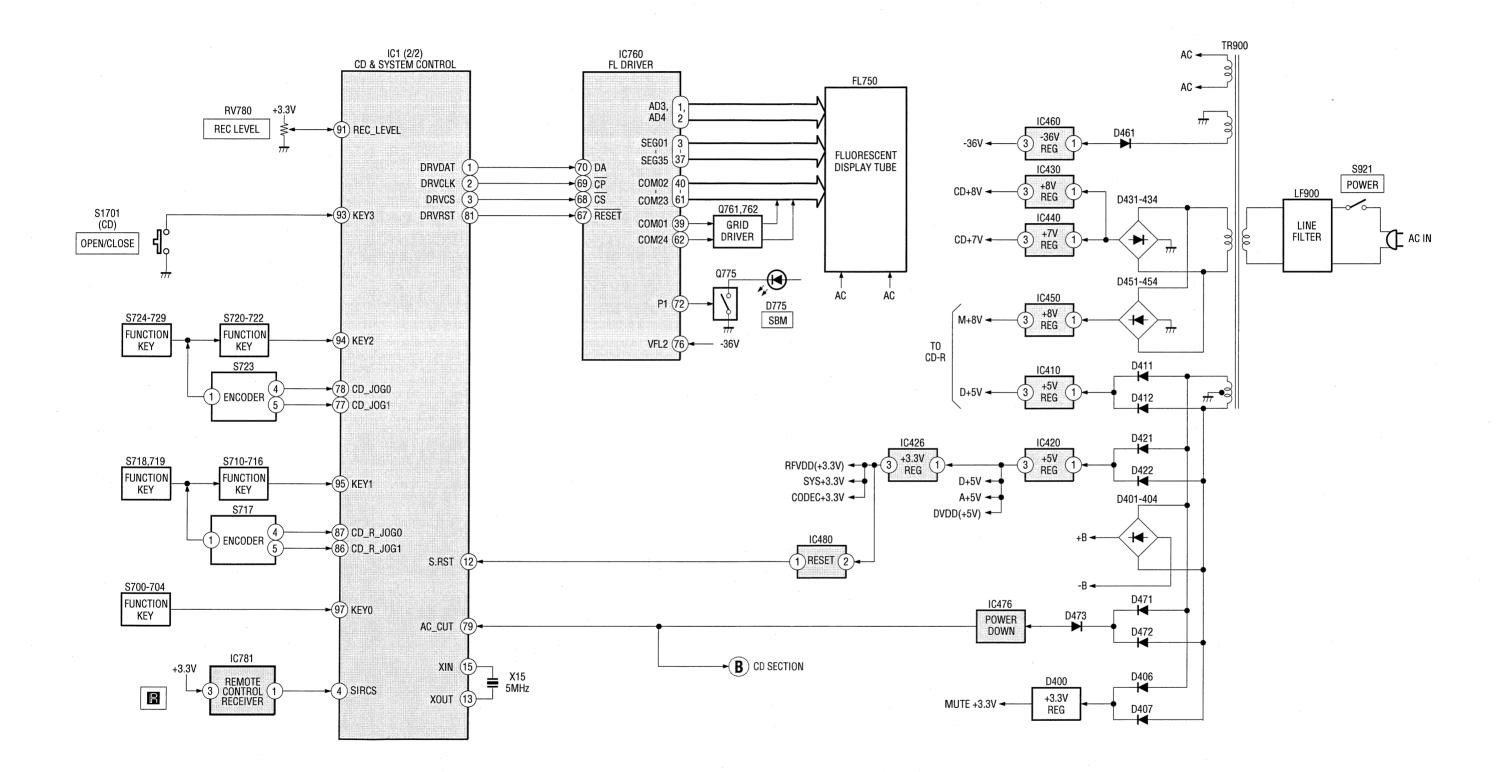
6-1. Block Diagrams - CD-R Section -



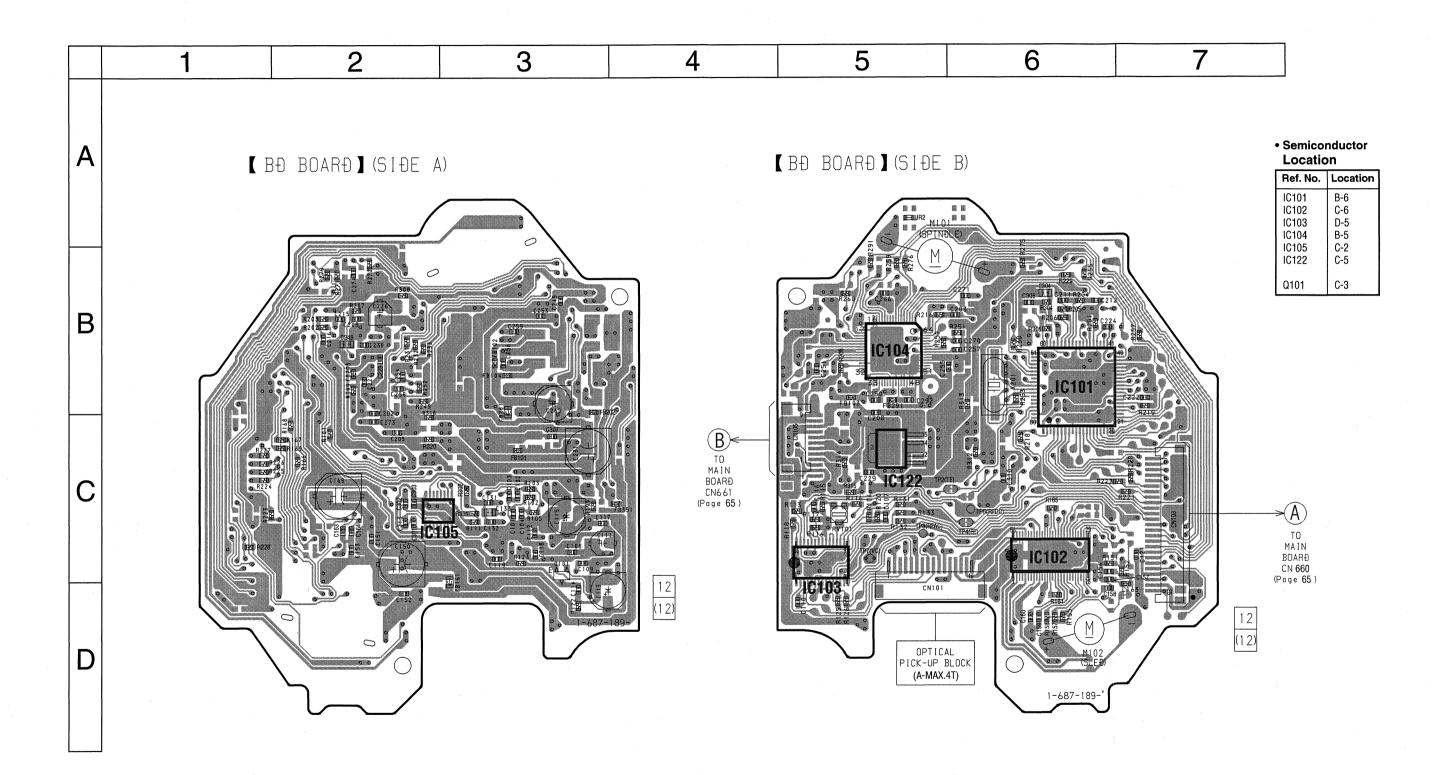


55

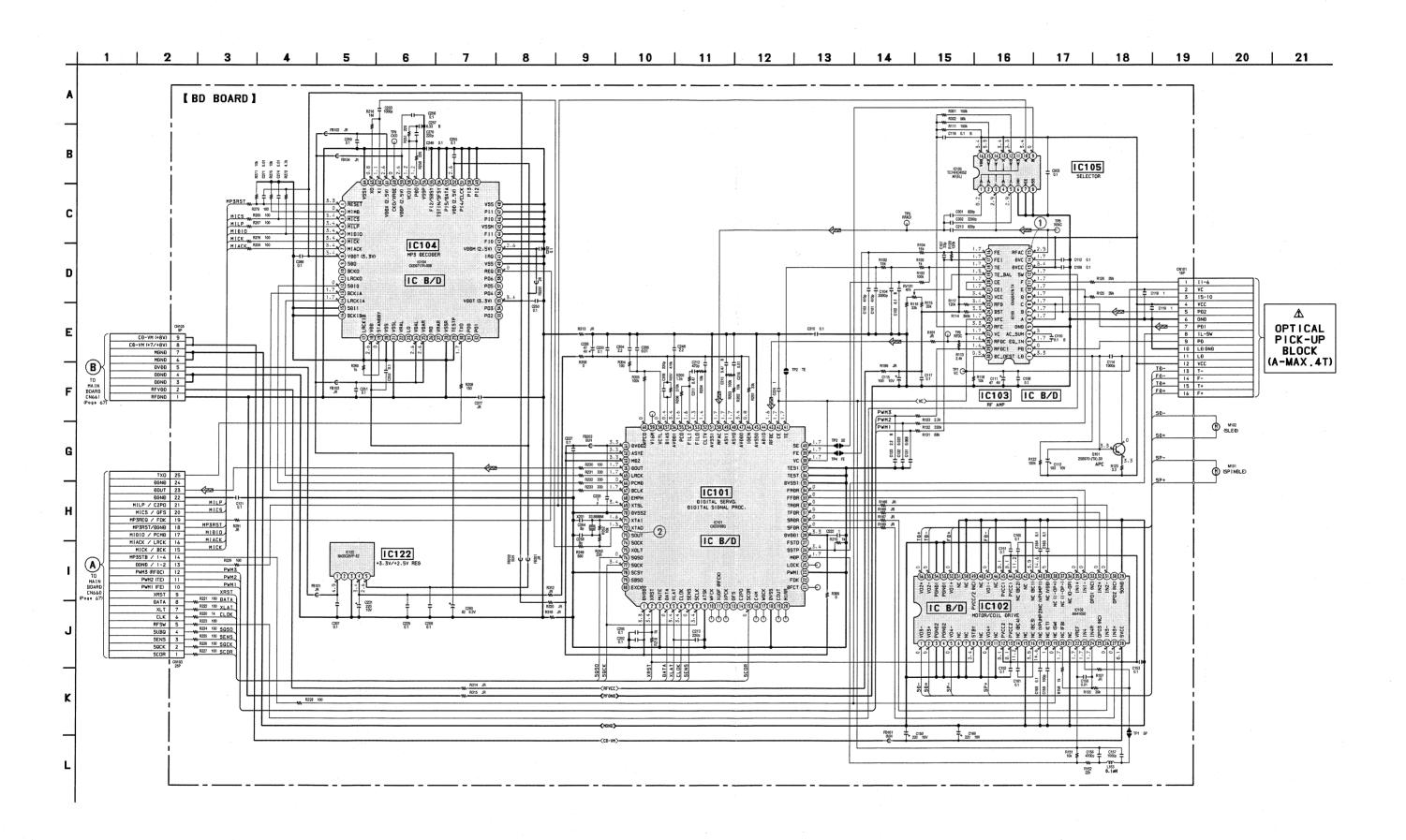
- POWER/DISPLAY Section -



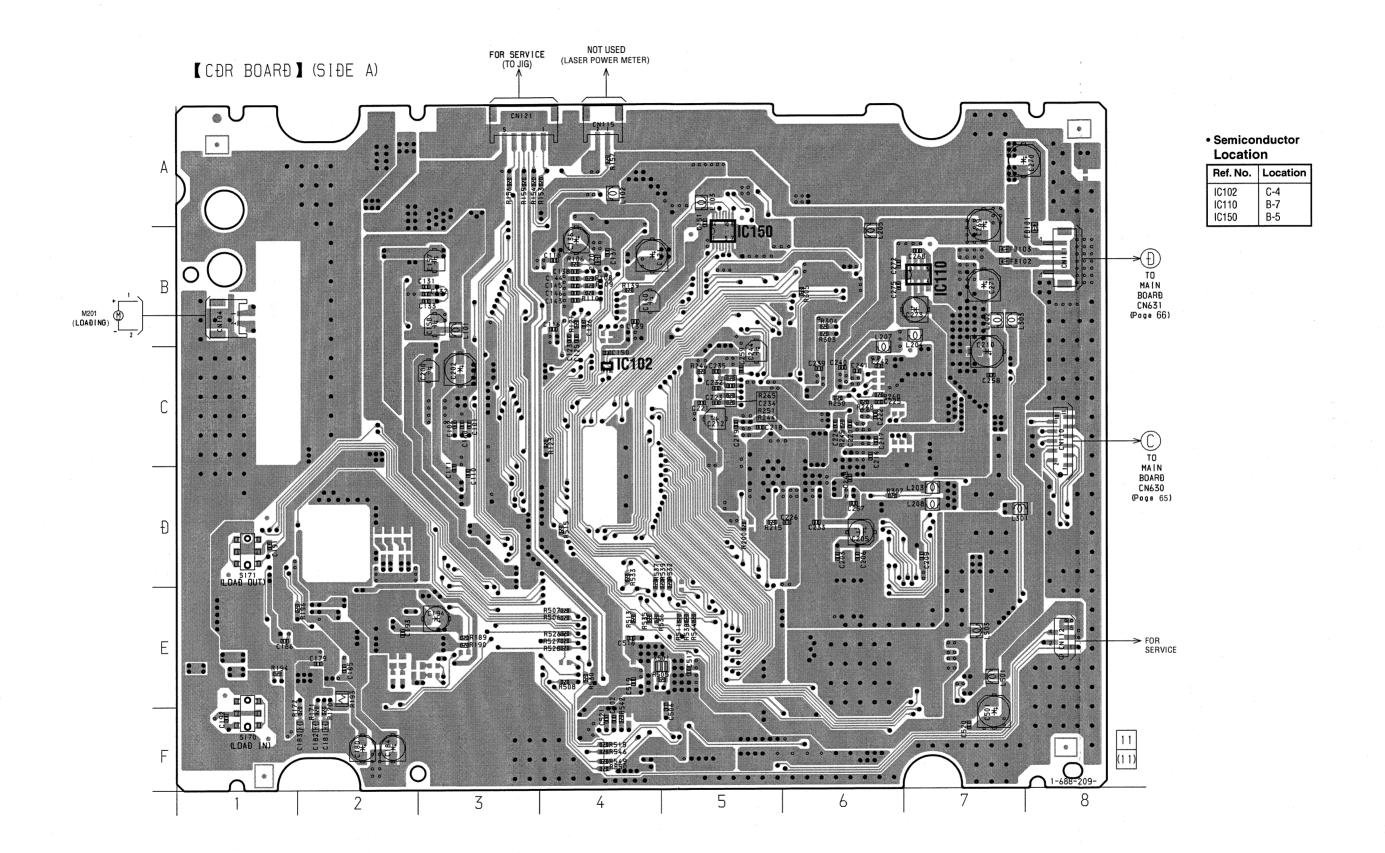
6-2. Printed Wiring Board – BD Section – • See page 53 for Circuit Boards Location. • Uses unleaded solder.



6-3. Schematic Diagram - BD Section - • See page 53 for Waveform. • See page 71 to 73 for IC Block Diagrams.

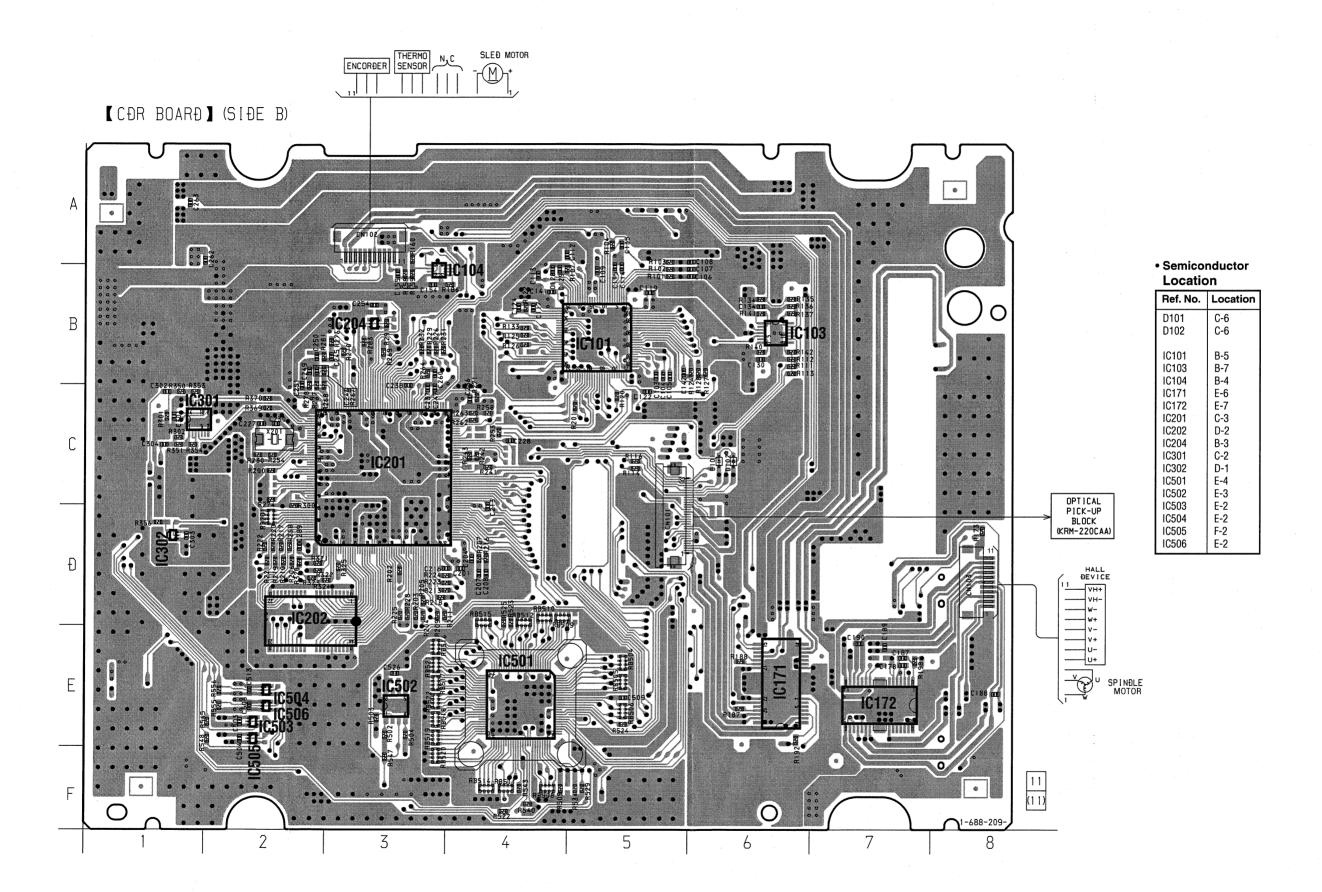


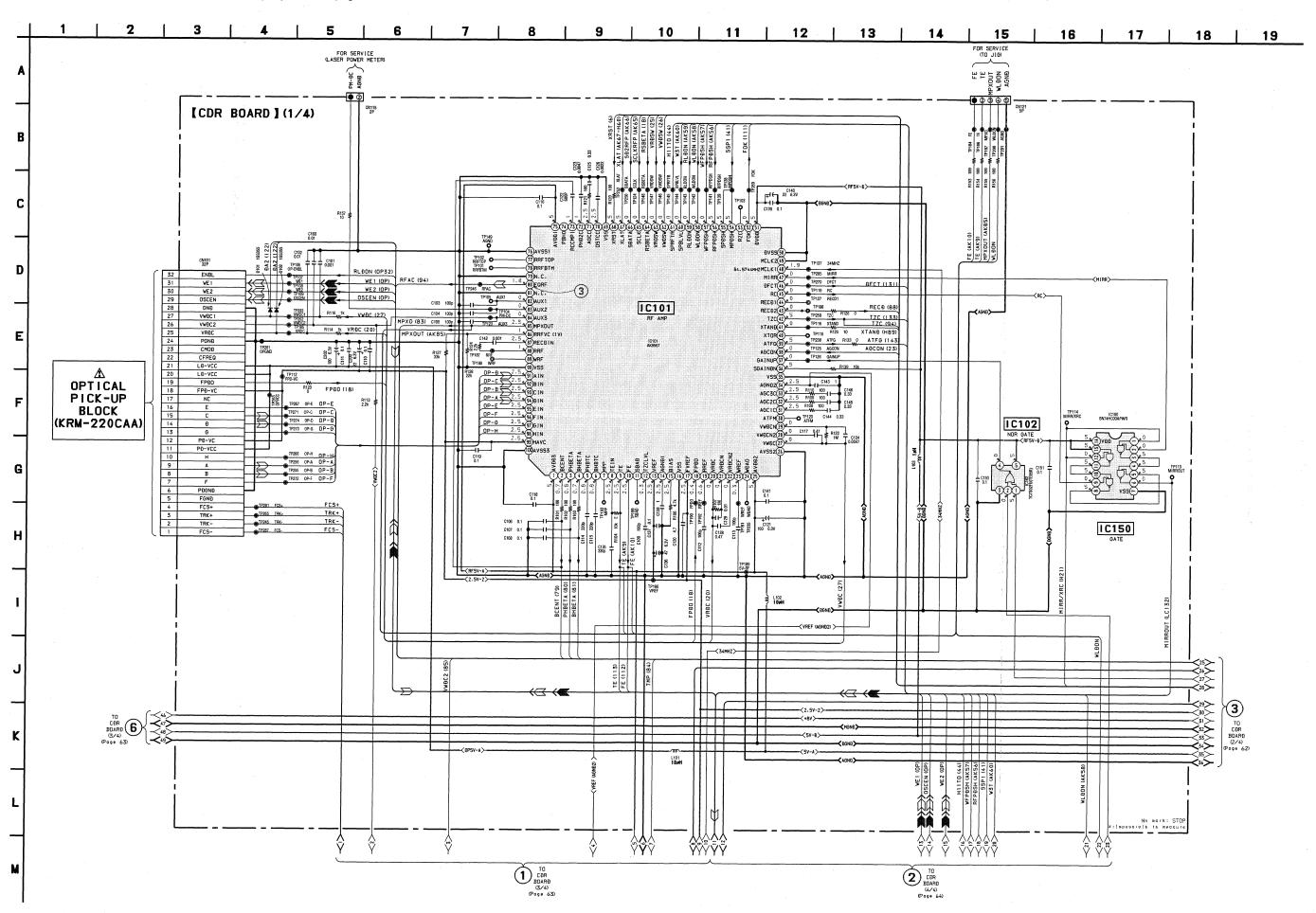
6-4. Printed Wiring Board – CD-R Section (Side A) – • See page 53 for Circuit Boards Location. • Uses unleaded solder.



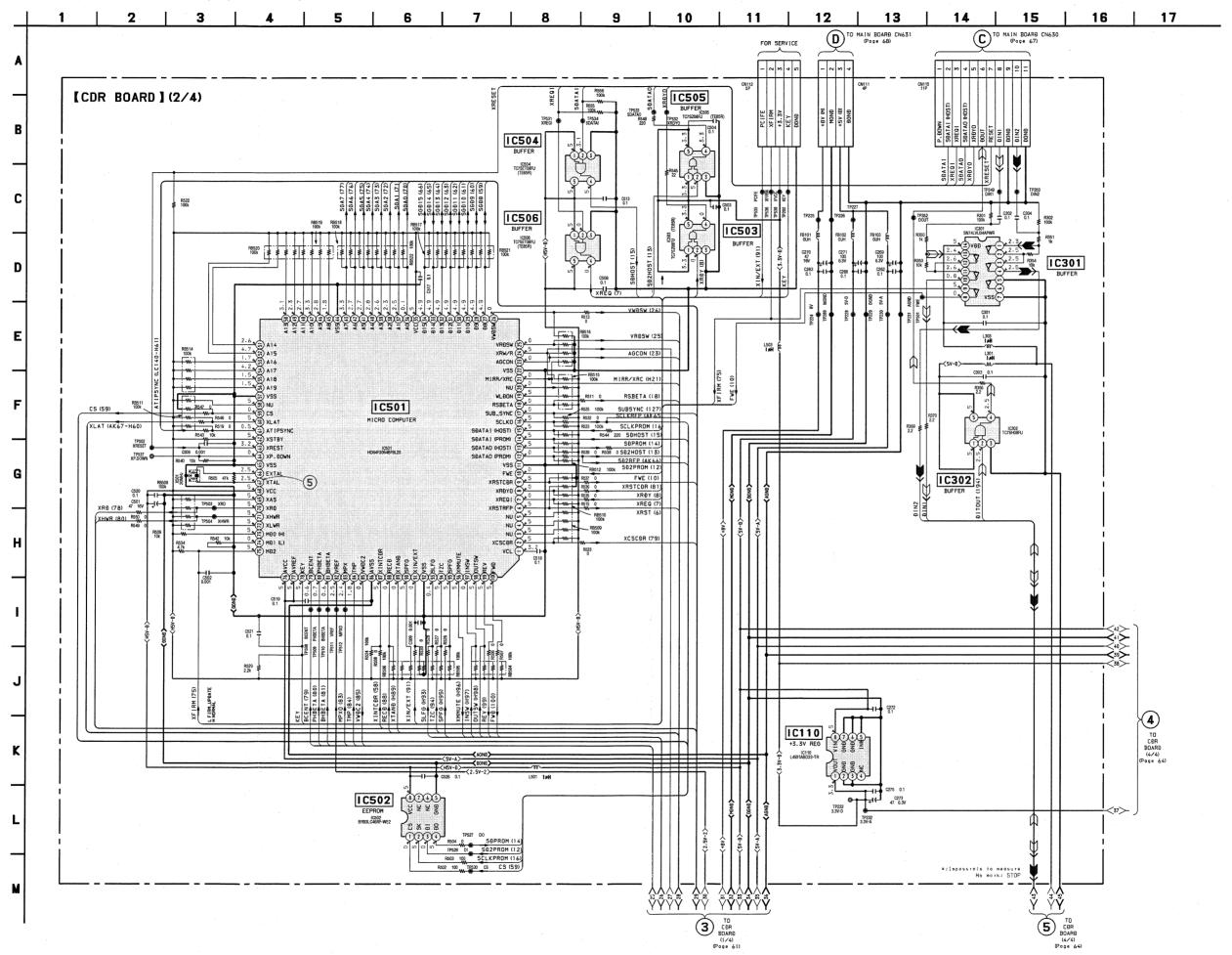
59

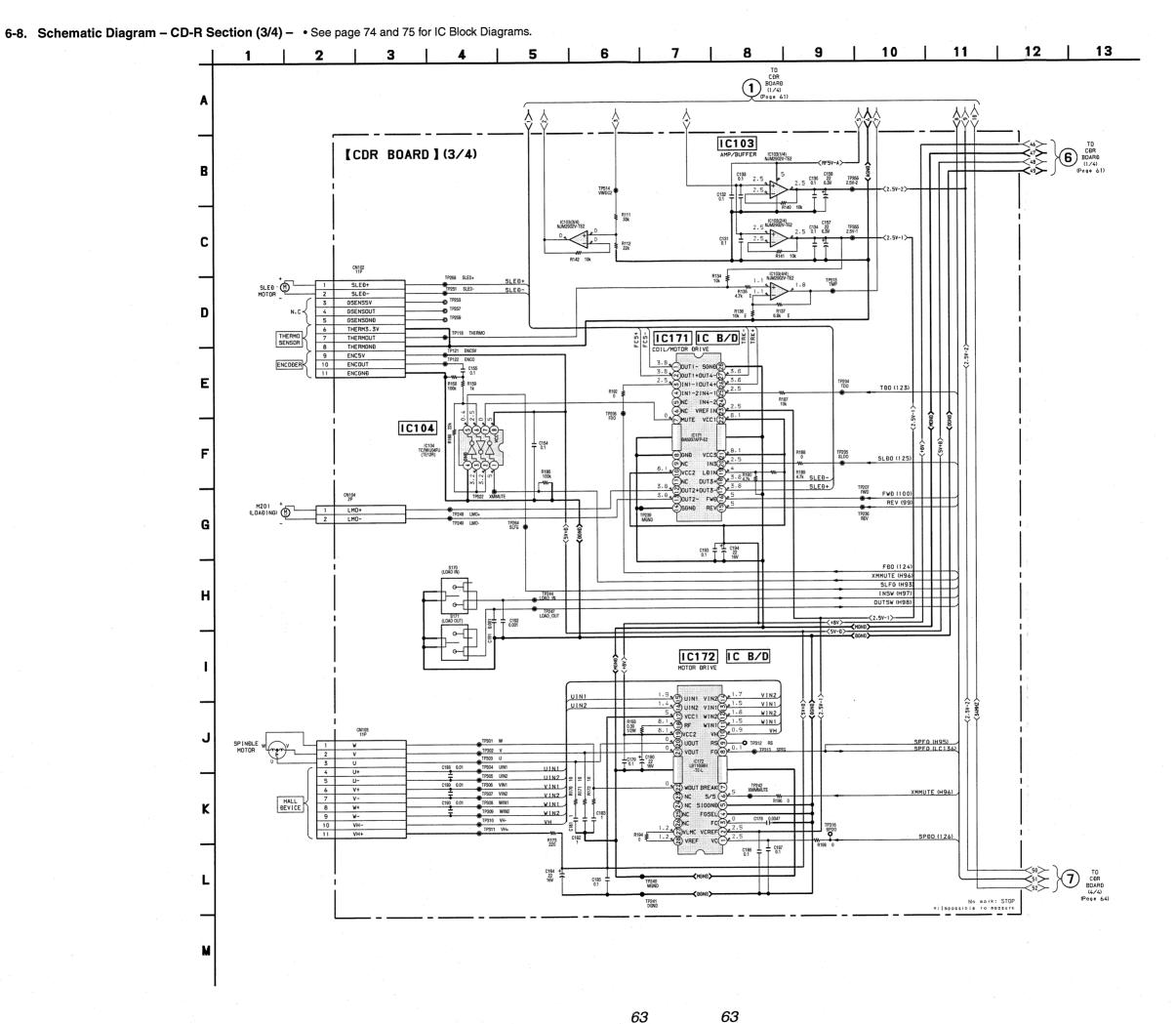
6-5. Printed Wiring Board - CD-R Section (Side B) - • See page 53 for Circuit Boards Location. • Uses unleaded solder.

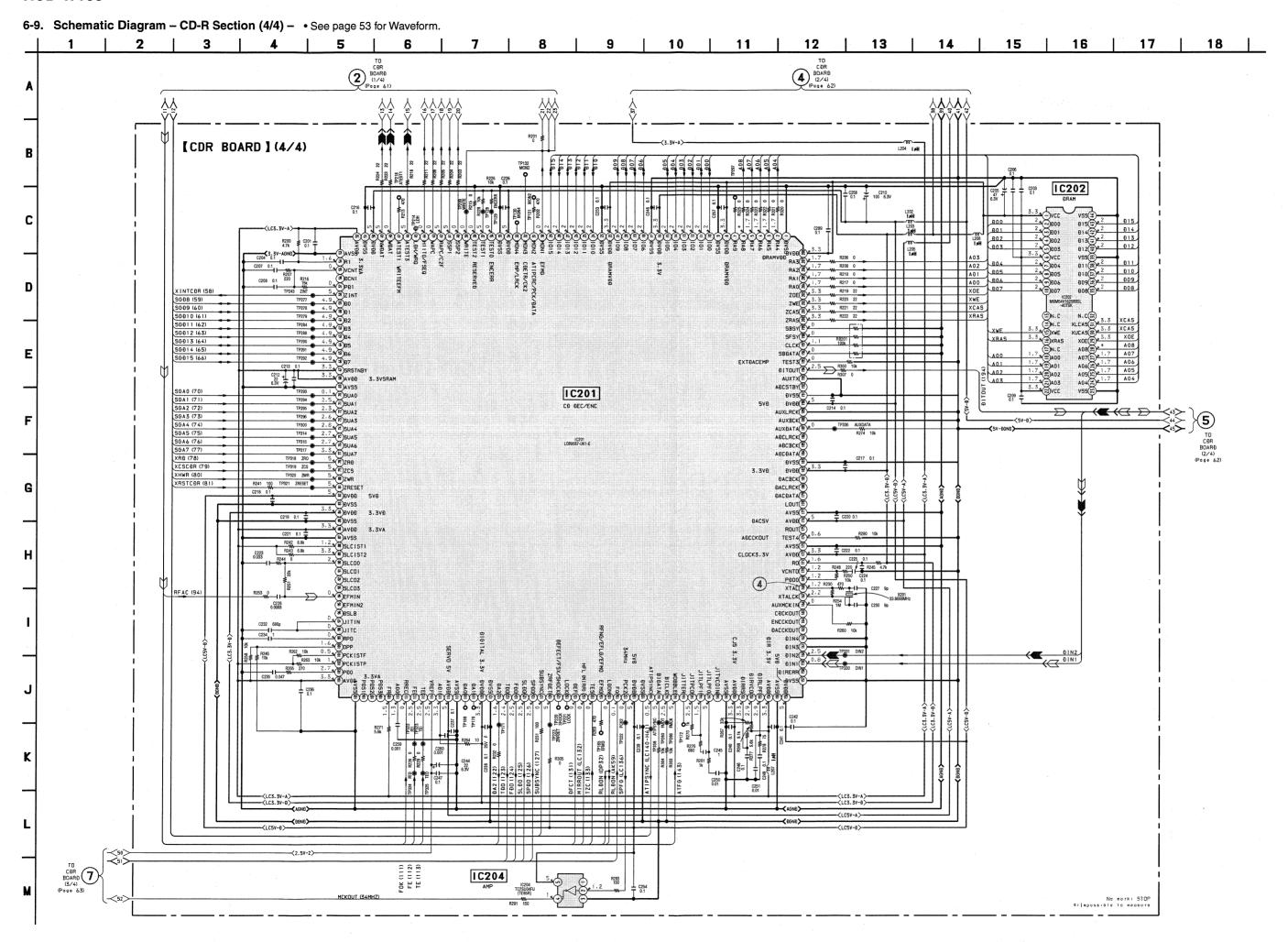


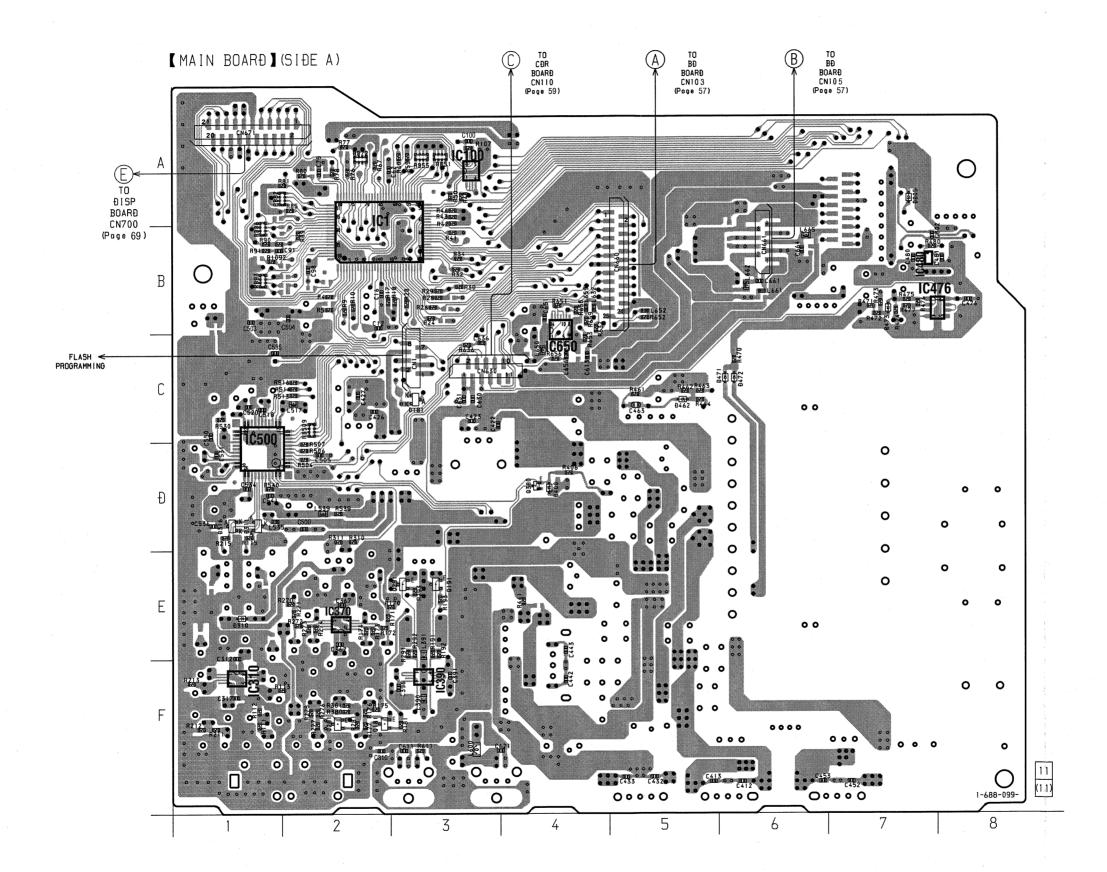


6-7. Schematic Diagram - CD-R Section (2/4) - • See page 53 for Waveform.









Semiconductor
 Location

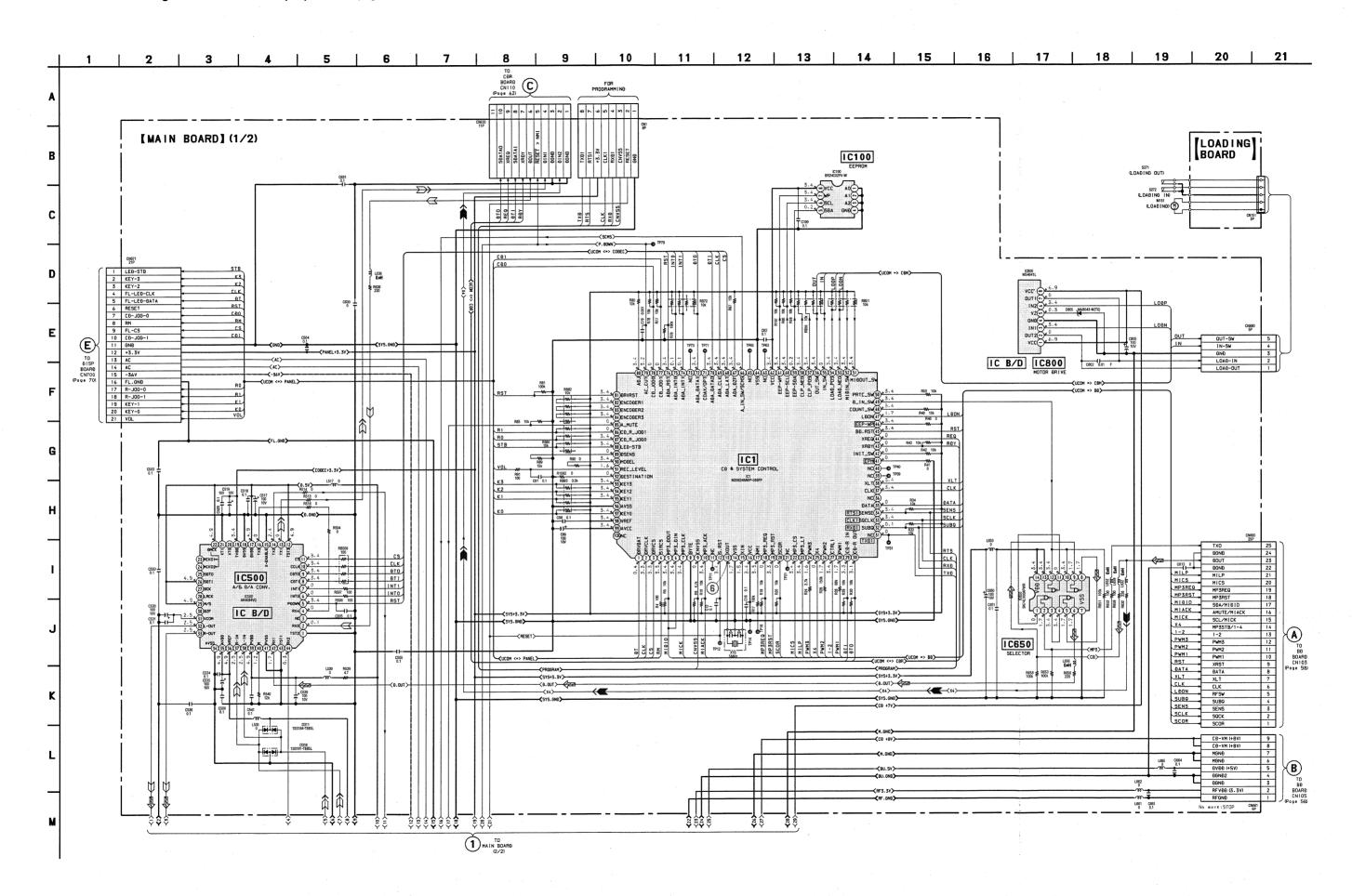
Location	
Ref. No.	Location
D181 D310	C-3 E-1
D311	D-1
D316	D-1
D400	D-4
D462 D471	C-5 C-6
D471 D472	C-6
D472	B-7
D805	A-7
IC1	A-2
IC100	A-3
IC310 IC370	F-1 E-2
IC370	F-3
IC476	B-8
IC480	B-7
IC500	C-1
IC650	C-4
Q181	F-2
Q191	E-3
Q281	F-2
Q291 Q380	E-3 D-4
L	

[LOADING BOARD] 【MAIN BOARÐ】(SIÐE B) • Semiconductor Location Ref. No. Location D401 D402 D403 D404 D406 D407 D411 D412 D421 D422 D431 D432 D433 D434 D454 D453 D454 D-4 E-4 E-4 D-5 D-4 F-4 F-5 F-4 F-3 E-3 E-3 D-4 IC410 IC420 F-3 C-5 * NOT REPLACEABLE BUILT IN TRANSFORMER IC426 IC430 IC440 IC450 IC460 C-6 F-4 E-5 F-2 IC610 IC620 F-6 F-5 TO POWER BOARD CN920 (Page 69) IC800 Q310 D-7 11 DISP D775 E-1 IC760 IC781 G-8 G-13 G-6

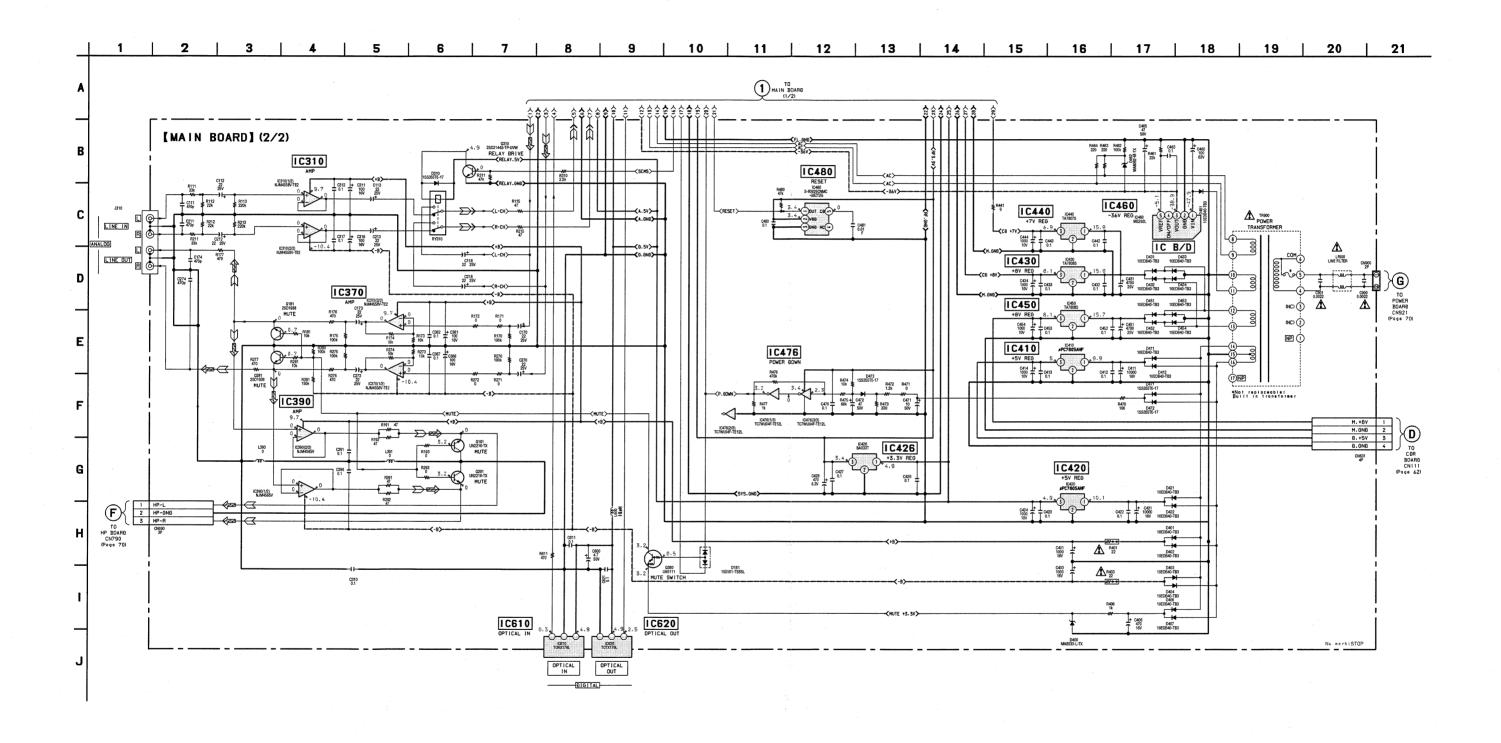
---[N

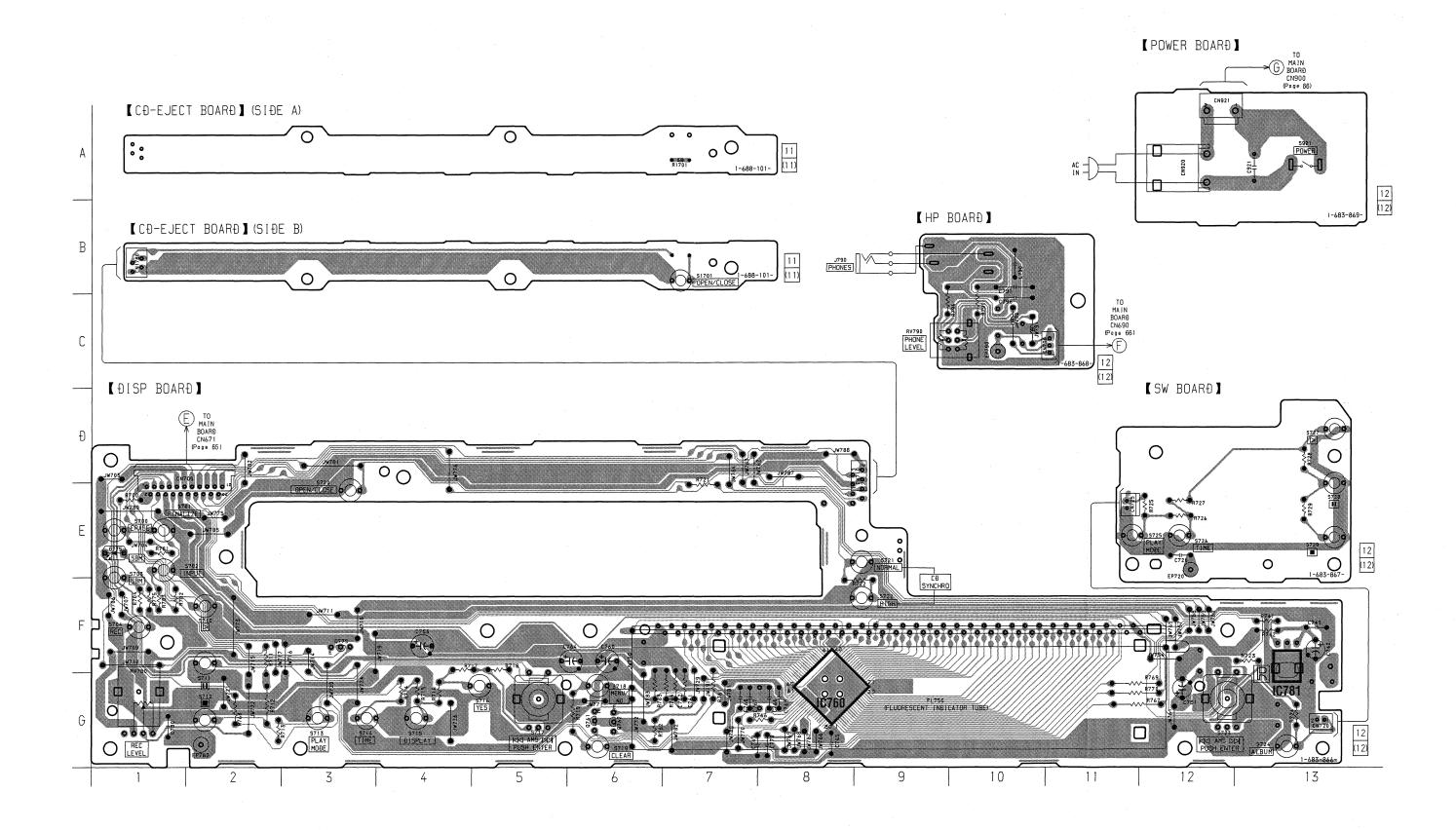
R

Q762 Q775 G-6 F-3

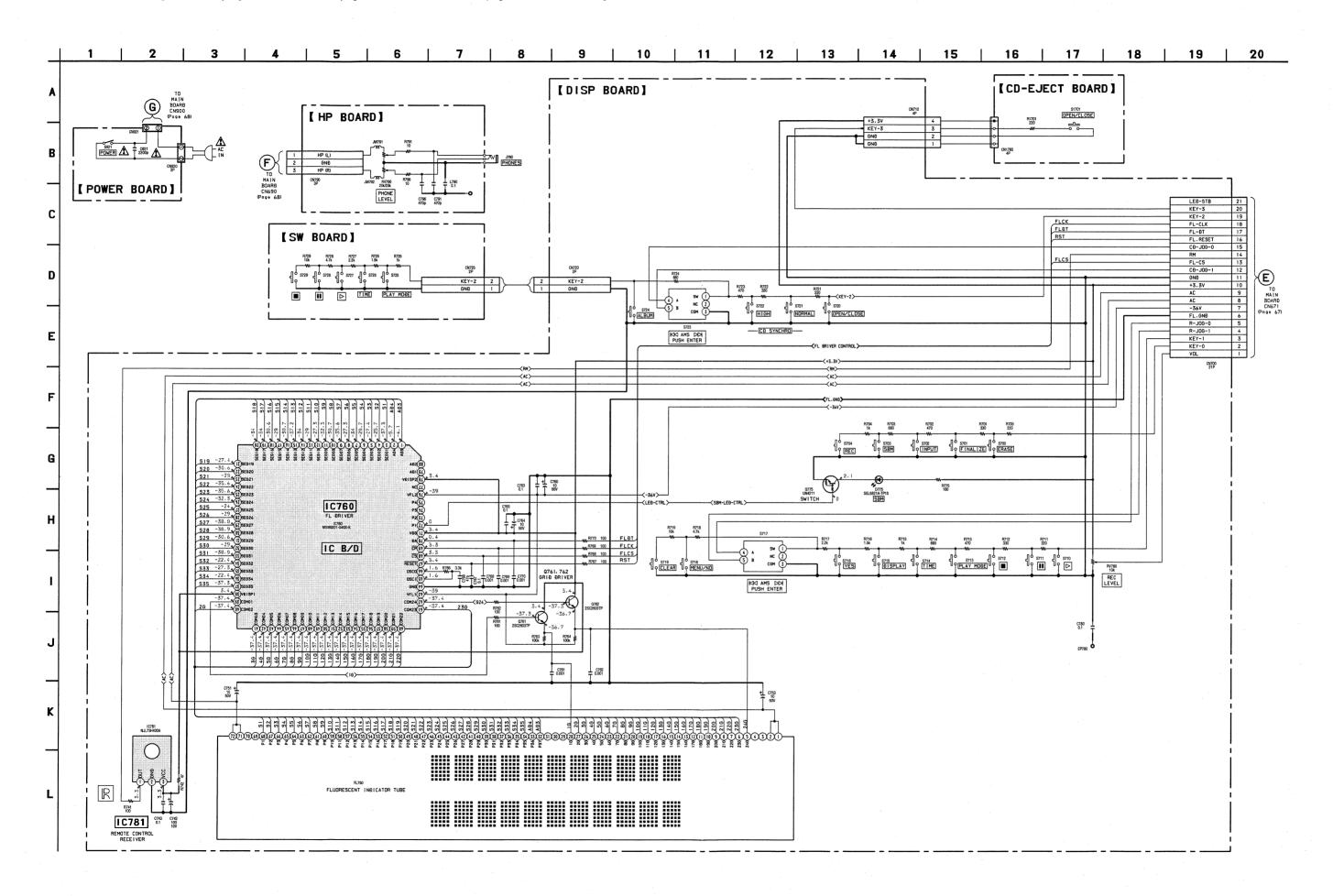


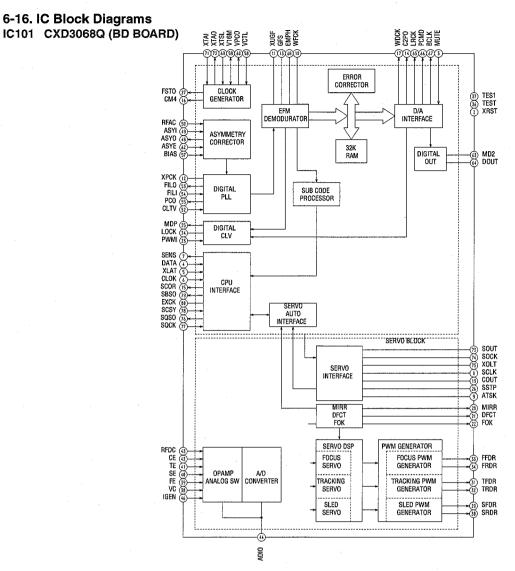
6-13. Schematic Diagram - Main Section (2/2) - • See page 53 for Waveform. • See page 75 for IC Block Diagrams.



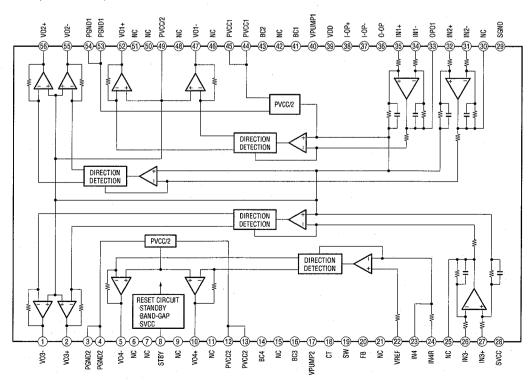


6-15. Schematic Diagram – Display Section – • See page 53 for Waveform. • See page 77 for IC Block Diagrams.

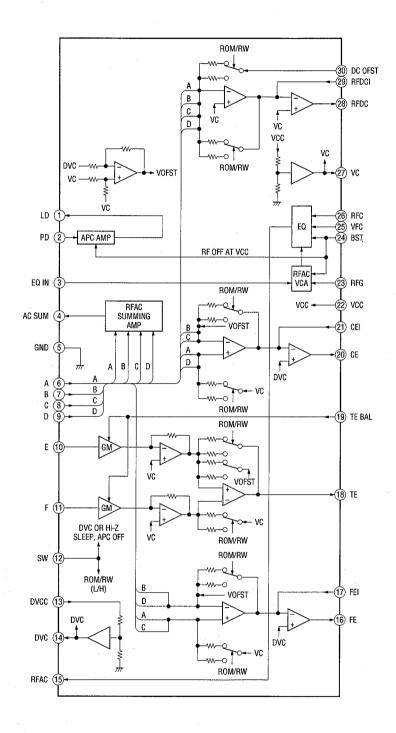




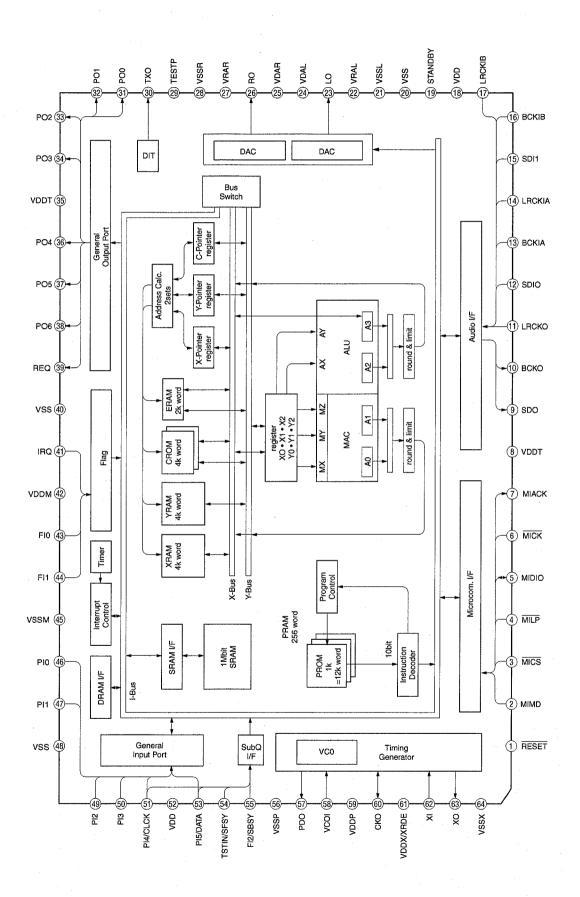
IC102 AN41050 (BD BOARD)



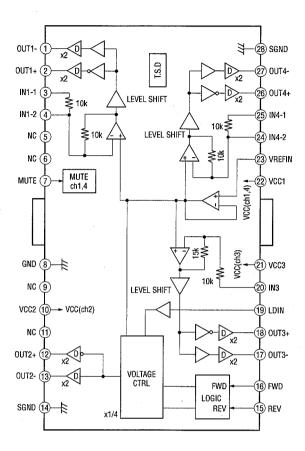
IC103 CXA2647N-T4 (BD BOARD)



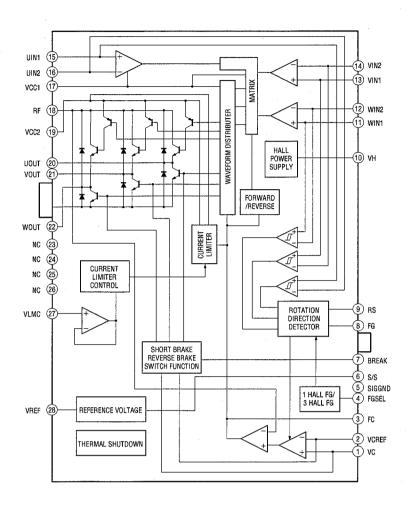
IC104 CXD9717R-008 (BD BOARD)



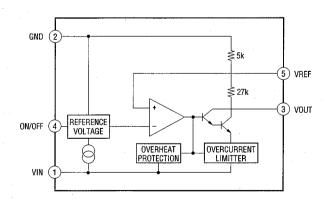
IC171 BA5937AFP-E2 (CDR BOARD)



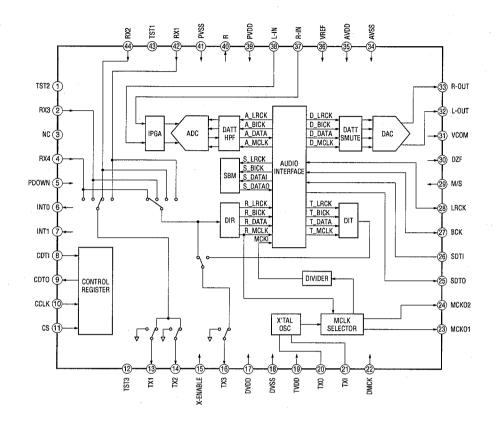
IC172 LB11698H-TE-L (CDR BOARD)



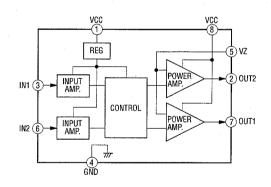
IC460 M5293L (MAIN BOARD)



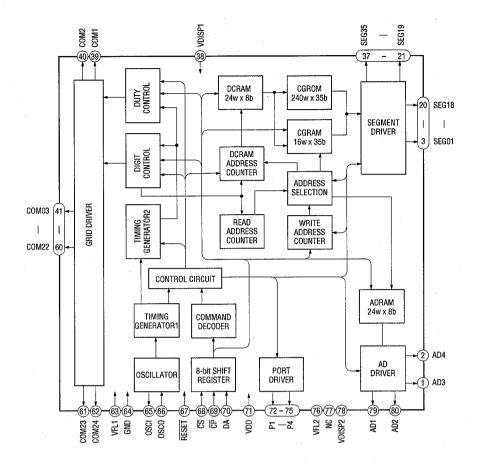
IC500 AK4584VQ (MAIN BOARD)



IC800 M54641L (MAIN BOARD)



IC760 MSM9201-04GS-K (DISP BOARD)



6-17. IC Pin Function Description • IC1 M30624MWP-068FP (CD & SYSTEM CONTROL)

Pin No.	Pin Name	1/0	Description			
1	DRVDAT	0	Data output to the FL driver (IC760)			
2	DRVCLK	0	Clock output to the FL driver (IC760)			
3	DRVCS	0	Chip select signal output to the FL driver (IC760)			
4	SIRCS	I	temote control signal input from the remote control receiver (IC781)			
5	MP3_DOUT	0	erial data output to the MP3 decoder (IC104)			
6	MP3_DIN	I	Serial data input from the MP3 decoder (IC104)			
7	MP3_CLK	0	Serial clock output to the MP3 decoder (IC104)			
8	BYTE	I	External data bus width setting terminal ("L": single chip)			
9	CNVSS	I	Processor mode setting terminal ("L" : single chip)			
10	MP3_ACK	I	Acknowledge signal input from the MP3 decoder (IC104)			
11	NC NC	0	Not used (open)			
12	S.RST	I	System reset signal input			
13	XOUT	0				
14	VSS	- 0	Resonator terminal for main clock (5MHz)			
			Ground terminal			
.15	XIN	I	Resonator terminal for main clock (5MHz)			
16	VCC	<u> </u>	Power supply terminal			
17	NMI	I	Non maskable interrupt signal input terminal (pull-up)			
18	MP3_REQ	I	Request signal input from the MP3 decoder (IC104)			
19	MP3_RESET	0	Reset signal output to the MP3 decoder (IC104)			
20	SCOR	I	Sub-code sync (S0+S1) detection signal input from the DSP (IC101)			
21	NC	0	Not used (open)			
22	MP3_CS	0	Chip select signal output to the MP3 decoder (IC104)			
23	MP3_LT	0	Latch signal output to the MP3 decoder (IC104)			
24	PWM3	0	PWM signal output for RFDC			
25	X4	0	Disc rotation speed selection signal output			
26	PWM2	0	PWM signal output for TE			
27	CTRL1	0	Disc rotation speed selection signal output			
28	PWM1	0	PWM signal output for FE			
29	CD-R IN	I	Data input from the microcomputer (IC501)			
30	CD-R OUT	0	Data output to the microcomputer (IC501)			
31	NC	0	Not used (open)			
32	SUBQ	I	Sub code Q serial data input			
33	SQCLK	0	Sub code Q serial clock output			
34	SENSE	I	SENSE signal input from the DSP (IC101)			
35	DATA	0	Data output to the DSP (IC101)			
36	NC	0	Not used (open)			
37	CLK	0	Clock output to the DSP (IC101)			
38	XLT	0	Latch signal output to the DSP (IC101)			
39	NC	0	Not used (open)			
40	NC	0	Not used (open)			
41	EPM	I	Flash programming terminal (pull-down)			
42	INIT_SW	I	Not used			
43	XRDY	I	Data ready signal input from the microcomputer (IC501)			
44	XREQ	0	Data request signal output to the microcomputer (IC501)			
45	BD_RESET	0	Reset signal output to the DSP (IC101) and the motor/coil driver (IC102) ("L": reset)			
46	EEP-WP	I	Flash programming terminal (pull-up)			
47	LDON	0	Laser on signal output			
48	COUNT_SW	I	Not used			
49	DIGITAL_IN_SW	0	Digital input selection signal output to the selector (IC650)			
50	PRTC_SW	I	Not used			

Pin No.	Pin Name	I/O	Description			
51	MIDOUT_SW	I	Not used			
52	MIDIN_SW	I	Not used			
53	LOAD_NEG	-0	Load motor control signal output			
54	LOAD_POS	0	Load motor control signal output			
55	IN_SW	I	Tray open/close detection signal input			
56	OUT_SW	I	Tray open/close detection signal input			
57	CLP_POS	0	Not used			
58	CLP_NEG	0	Not used			
59	EEP-SDA	0	IIC data input/output from/to the EEPROM (IC100)			
60	EEP-SCL	0	IIC clock input/output from/to the EEPROM (IC100)			
61	EEP-WP	0	Write protect signal output the EEPROM (IC100)			
62	VCC	_	Power supply terminal			
63	NC	0	Not used (open)			
64	VSS	_	Ground terminal			
65	NC	0	Not used (open)			
66	A_IN_SW/SCMS	0	Analog line selection signal output (SCMS on at SYNC mode)			
67	ADA_DZF	I	Not used (pull-up)			
68	ADA_LAT	0	Data latch signal output to the AD/DA converter (IC500)			
69	ADA_CLK	0	Clock output to the AD/DA converter (IC500)			
70	ADA_DATAO	0	Data output to the AD/DA converter (IC500)			
71	COAX/OPT	0	Not used (open)			
72	ADA_DATAI	I	Data input from the AD/DA converter (IC500)			
73	NC	0	Not used (open)			
74	ADA_INT1	I	Interrupt signal input from the AD/DA converter (IC500)			
75	ADA_INT0	I	Interrupt signal input from the AD/DA converter (IC500)			
76	ADA_RST	0	Reset signal output to the AD/DA converter (IC500)			
77	CD_JOG1	I	CD jog signal input			
78	CD_JOG0	I	CD jog signal input			
79	AC_CUT	I	AC cut signal input ("L": AC cut)			
80	ADJ	I	ADJ mode setting terminal ("L": ADJ mode)			
81	DRVRST	0	Reset signal output to the FL driver (IC760)			
82	ENCODER1	I	Not used (pull-up)			
83	ENCODER2	I	Not used (pull-up)			
84	ENCODER3	I	Not used (pull-up)			
85	A_MUTE	0	Muting control signal output ("L": muting on)			
86	CD_R_JOG1	I	CD-R jog signal input			
87	CD_R_JOG0	I	CD-R jog signal input			
88	LED-STB	0	Strobe signal output to the LED driver (not used)			
89	DSENS	I	Not used (pull-up)			
90	MODEL	I	Model setting terminal			
91	REC_LEVEL	I	Analog recording level signal input from the RV780			
92	DESTINATION	I	Destination setting terminal			
93	KEY3	I	Key data AD input			
94	KEY2	I	Key data AD input			
95	KEY1	I	Key data AD input			
96	AVSS		Ground terminal (analog)			
97	KEY0	I	Key data AD input			
98	VREF		Analog reference voltage input terminal			
99	AVCC	_	Power supply terminal (analog)			
100	NC	0	Not used (open)			

• IC101 AK8567 S/H & MATRIX, MPX (CDR Board)

Pin No.	Pin Name	1/0	Description				
	AVDD3	1/0					
1 2	BCENT	 -	Power supply (analog)				
	PHBETA	0	Center signal output ß signal top level signal output				
3		0					
4	BHBETA	0	ignal bottom level signal output				
5	PHBTC	0	trenal capacitor teminal for PHBETA droop rate setting				
6	ВНВТС	0	Extrenal capacitor teminal for BHBETA droop rate setting				
7	MPP	0	Main push-pull signal output Not used (open)				
8	TEIN	I	Tracking signal processing input				
9	TE	0	Tracking error signal output				
10	FE	0	Focus error signal output				
11	SBAD	0	SBAD signal output Not used (open)				
12	TZCLVL	I	Tracking zero cross comparate level input				
13	VREF	I/O	Decoupling teminal for internal reference voltage / internal reference voltage input terminal				
14	AGND1	0	Decoupling teminal for internal reference voltage				
15	BIAS	0	Bias resistor connection terminal BIAS = $4.7k\Omega$				
16	VSS		Ground terminal (analog)				
17	FVREF	I	APC reference voltage input terminal				
18	FPDO	I	Laser monitor voltage input				
19	RREF	I/O	Power setting voltage input for read APC / internal DAC setting voltage output				
20	VRDC	0	Read laser driver control signal output				
21	VRDCN	I	Read laser driver control amplifier (-) teminal				
22	VRDCN2	I	Read laser driver time constant setting terminal				
23	WREF	I/O	Power setting voltage input for write APC / internal DAC setting voltage output				
24	WDAO	0	Power setting internal DAC voltage output for write APC Not used (open)				
25	AVDD2		Power supply (analog)				
26	AVSS2		Ground terminal (analog)				
27	VWDC	0	Write laser driver control signal output				
28	VWDCN2	I	Write laser driver time constant setting terminal				
29	VWDCN	I	Write laser driver control amplifier (-) teminal				
30	ATFM	0.	Wobble signal output Not used (open)				
31	AGC1C	0	External capacitor terminal for AGC response speed setting				
32	AGC2C	0	External capacitor terminal for AGC response speed setting				
33	AGC3C	0	External capacitor terminal for AGC response speed setting				
34	AGND2	0	Decoupling teminal for internal reference voltage				
35	VSS		Ground terminal (analog)				
36	SGAINDN	I	Gain selection signal input				
37	GAINUP	I	CD-RW selection control signal input				
38	AGCON	I	Wobble AGC enable signal input "H": AGC ON, "L": AGC reset				
39	ATFG	0	ATIP FG signal output (Wobble signal after formation of 2 values)				
40	XTOR	0	Tracking amplitude detection signal output Not used (open)				
41	XTAND	0	Tracking failure detection signal output				
42	TZC	0	Tracking zero cross detection signal output				
43	RECD2	0	Recorded block detection signal output 2 "H": recorded block, "L": unrecorded block				
44	RECD1	0	Recorded block detection signal output 1 "H": recorded block, "L": unrecorded block				
45	RC	0	RC signal output				
46	DFCT	0	DFCT signal output				
47	MIRR	0	MIRR signal output				
48	MCLK1	I	Main clock input 1 (sine wave input) 34.5744MHz				
49	MCLK2	I	Main clock input 2 (sine wave input) fixed at "L"				
50	DVSS	_	Ground terminal (digital)				
	*	1	· · · · · · · · · · · · · · · · · · ·				

Pin No.	Pin Name	1/0	Description
51	DVDD		Power supply (digital)
52	FOK	0	FOK signal output
53	RZC	0	RF zero cross detection signal output Not used (open)
54	MPDSH	I	Sampling pulse input for main beam signal "H": sample, "L": hold
55	SPDSH	I	Sampling pulse input for side beam signal "H": sample, "L": hold
56	RFPDSH	I	Sampling pulse input for read APC "H": sample, "L": hold
57	WFPDSH	I	Sampling pulse input for write APC "H": sample, "L": hold
58	WLDON	I	Write LD control signal input "H": set write APC value to zero, "L":LD ON
59	RLDON	I	Read LD control signal input "H": set read APC value to zero, "L": LD ON
60	SPBLVL	I	BLEVEL sampling pulse input "H": sample, "L": hold
61	SPRFTR	I	WRFTR sampling pulse input "H": sample, "L": hold
62	VWDSW	I	Write laser driver time constant setting switch control signal input "H": ON, "L": OFF
63	VRDSW	I	Read laser driver time constant setting switch control signal input "H": ON, "L": OFF
64	RSBETA	I	β measuring circuit reset signal input "H": reset the outputs of PHBETA and BHBETA
65	SCLK	I	Clock input for register setting
66	SDATA	I	Serial data input for register setting
67	XLAT	I	Latch siganl input for register setting
68	XRST	I	Register reset terminal "L": reset
69	VSS	 	Ground terminal (analog)
70	OSTCC	0	Capacitor connection terminal for setting fc of the equalizer output offset canceller
71	AGCC	0	External capacitor connection terminal for setting the RFAGC response speed
72	PHD2C	0	External capacitor connection terminal for setting the P/H2 droop rate
73	RCCMPI	I	RC detection comparator input
74	РВНО	0	Bottom/top level output of RRF signal
75	AVDD1		Power supply (analog)
76	AVSS1	_	Ground terminal (analog)
77	RRFTOP	0	Peak level output of RRF signal Not used (open)
78	RRFBTM	0	Bottom level output of RRF signal Not used (open)
79	N.C.		Not used (ground)
80	EQRF	0	Equalizer filter output
81	N.C.		Not used (ground)
82	AUX1	I	Auxiliary input terminal (1) for monitoring signal Not used
83	AUX2	I	Auxiliary input terminal (2) for monitoring signal from the CN115 Not used
84	AUX3	I	Auxiliary input terminal (3) for monitoring VWDC2 signal from the optical pick-up
85	MPXOUT	0	Multiplexer signal output for the signal monitoring
86	RRFVC(1V)	I	Level shift voltage input terminal for RRF signal
87	RECDIN	I	RF signal input for the recorded block detection
88	RRF	0	Read RF signal output
89	WRF	0	Write RF signal output (open)
90	VSS	 _	Ground terminal (analog)
91	AIN	I	Main beam signal (A) input
92	BIN	I	Main beam signal (B) input
93	CIN	I	Main beam signal (C) input
94	DIN	I	Main beam signal (D) input
95	EIN	I	Side beam signal (E) input
96	FIN	I	Side beam signal (F) input
97	GIN	I	Side beam signal (I) input
98	HIN	I	Side beam signal (G) input Side beam signal (H) input
99	HAVC	I	Main/side beam signal center voltage input
		+ -	Ground terminal (analog)
100	AVSS3		Oromo termina (anatog)

• IC201 LC89587-UK1-E CD DEC/ENC (CDR Board)

	LC89587-UK1-E CD DEC/ENC (CDR Board)					
Pin No.	Pin Name	I/O	Description			
1	DVSS		Ground terminal (digital)			
2 to 6	RA4 to RA8	0	Address signal output to the buffer RAM for audio data delay			
7	RA9	0	Address signal output to the buffer RAM for audio data delay Not used (open)			
8	DVDD	_	Power supply +3.3V (DRAM I/F)			
9	DVSS		round terminal (digital)			
10 to 15	IO0 to IO5	I/O	ata input/output to the buffer RAM for audio data delay			
16	DVDD		Power supply +3.3V (digital)			
17	DVSS	_	Ground terminal (digital)			
18 to 21	IO6 to IO9	I/O	Data input/outputto the buffer RAM for audio data delay			
22	DVDD		Power supply +3.3V (DRAM I/F)			
23	DVSS	_	Ground terminal (digital)			
24 to 29	IO10 to IO15	I/O	Data input/output to the buffer RAM for audio data delay			
30	MON1	0	Monitor output EFMG signal			
31	MON2	0	Monitor output ATIPCRC/PCK/DATA signal (open)			
32	MON3	0	Monitor output CDETR/CK2 signal (open)			
33	MON4	0	Monitor output EMP/LRCK signal (open)			
34	DVDD	_	Power supply +5V (digital)			
35	DVSS	_	Ground terminal (digital)			
36	TEST0	I/O	ENCERR signal output (pull-up)			
37	TEST1	I/O	TESTOUT signal output (pull-up)			
38	TEST2	I/O	TESTIN signal input (ground)			
39	WRITE	I	Write strategy signal control terminal			
40	SSP2	0	Servo sampling pulse output			
41	SSP1	0	Servo sampling pulse output			
42	RAPC/C2F	0	Laser sampling pulse output			
43	WAPC	0	Laser sampling pulse output			
44	H11TO/FSEQ	0	Running OPC sampling pulse output			
45	LDH/WRQ	0	LD control signal output for recording Not used (open)			
46	ATEST3	0	Analog block test signal output (WE2)			
47	ATEST1	0	Analog block test signal output Not used (open)			
48	WDAT	0	LD control signal output for recording			
49	NWDAT	0	LD control signal output for recording			
50	DVDD	_	Power supply +5V (digital)			
51	DVSS		Ground terminal (digital)			
52	AVDD	_	Power supply 3.3V (analog) for the write strategy			
53	AVSS	_	Ground terminal (analog)			
54	R1	I	Analog terminal for the write strategy (fixed at "H")			
55	VCNT1	I	Analog terminal for the write strategy			
56	DCN1	I	Analog terminal for the write strategy Not used (open)			
57	PD1	0	Analog terminal for the write strategy			
58	ZINT	0	Interrupt request signal output to the µcom (IC501)			
59 to 66	D0 to D7	I/O	Data input/output with the µcom (IC501)			
67	SRSTNBY	I	Back up control terminal for CD-TEXT SRAM			
68	AVDD	_	Power supply +3.3V (analog) for CD-TEXT SRAM			
69	AVSS	_	Ground terminal (analog)			
70 to 77	SUA0 to SUA7	I	Command register selection address signal input			
78	ZRD	I	Data read out signal input from the µcom (IC501)			
79	ZCS	I	Chip select signal input from the µcom (IC501)			
80	ZWR	I	Data write signal input from the µcom (IC501)			
81	ZRESET	I	Reset signal input			

Pin No.	Pin Name	1/0	Description
82	DVDD		Power supply +5V (digital)
83	DVSS		Ground terminal (digital)
84	DVDD		Power supply +3.3V (digital)
85	DVSS	_	Ground terminal (digital)
86	AVDD	_	Power supply +3.3V (analog) for slice level setting
87	AVSS		Ground terminal (analog)
88, 89	SLCIST1, SLCIST2	I	EFM slice level setting signal input
90 to 93	SLCO0 to SLCO3	0	EFM slice level output
94	EFMIN	I	EFM signal input
95	EFMIN2	İ	EFM signal input Not used (open)
96	DSLB	0	PWM signal output for SLC Not used (open)
97	JITIN	I	Jitter judgement input
98	JITC	0	Jitter output
99.	RPO	0	P/N balance adjustment terminal
100	OPP	I	P/N balance adjustment terminal
101	PCKISTF	I	Charge pump terminal for the frequency comparison
102	PCKISTP	I	Charge pump terminal for the phase comparison
103	PD0	0	Filter for the charge pump
104	AVDD		Power supply +3.3V (analog) for the charge pump
105	AVSS	_	Ground terminal (analog)
106 to 108	PDS1 to PDS3	0	Charge pump selection terminal Not used (open)
109	FR	I	VCO frequency setting input teminal
110	AD0	I	AD input
111	RREC	I	FOK signal input for optical judgement
112	FE	I	Focus error signal input
113	TE	I	Tracking error signal input
114	VREF	I	Servo system reference voltage input
115	AD1	I	AD input
116	AVDD		Power supply +5V (analog) for the servo block AD/DA
117 .	AVSS		Ground terminal (analog)
118, 119	DA0, DA1	0	DA output Not used (open)
120	DVDD		Power supply +3.3V (digital)
121	DVSS		Ground terminal (digital)
122	DA2	О	DA output
123	TDO	0	Tracking signal output
124	FDO	О	Focus signal output
125	SLDO	0	Sled signal output
126	SPDO	0	Spindle signal output
127	SUBSYNC	0	Sub-code sync signal output
128	ZRFDET	I	Judgement signal input for the existence of RF signal (fixed at "H")
129	SHOCK	0	Shock detection signal output Not used (open)
130	LOCK	0	PLL lock status signal output Not used (open)
131	DEF	I	Defect detection signal input
132	HFL(MIRR)	I	MIRR detection signal input
133	TES	I	Tracking zero cross signal input
134	EFMO	0	EFM signal output after formation of 2 values (open)
135	LDON	0	Laser control signal output for play back
136	FG	I	Rotation monitor signal input from the spindle motor driver
137	PCK2	0	Bit clock output for EFM playback
138	DVDD		Power supply +5V (digital)

Pin No.	Pin Name	1/0	Description		
139	DVSS		Ground terminal (digital)		
140	ATIPSYNC	0	ATIP sync signal output		
141	BIDATA	I/O	ATIP demodulator input/output (fixed at "L")		
142	BICLK	I/O	ATIP demodulator input/output (fixed at "L")		
143	WOBBLE	I	TIP demodulator input/output		
144	JITERR	0	Clock jitter suppressor error signal output Not used (open)		
145	JITPCO	0.	PLL phase frequency comparator output		
146	JITLPFI	I	PLL low-pass filter input terminal		
147	JITLPFO	0	PLL low-pass filter output terminal		
148	JITVCOIN	I	PLL, VCO clock input terminal		
149	AVSS		Ground terminal (analog)		
150	AVDD	_	Power supply +3.3V (analog) for the clock jitter suppressor		
151	DIRRS	I ·	VCO gain control signal input		
152	DIRVCO	I	VCO free running oscillation frequency control signal input		
153	DIRLPF	0	Loop filter setting terminal		
154	AVDD		Power supply +3.3V (analog) for the DIR		
155	AVSS		Ground terminal (analog)		
156	DVDD		Power supply +5V (digital)		
157	DVSS	_	Ground terminal (digital)		
158	DIRERR	0	PLL lock data error output		
159	DIN1	I	Digital data input from the IC500		
160	DIN2	I	Digital data input from the IC101		
161, 162	DIN3, DIN4	I	Digital data input Not used (ground)		
163	DACCKOUT	0	DAC clock output Not used (open)		
164	ENCCKOUT	0	RF processor clock output Not used (open)		
165	CDCKOUT	0	CD decoder clock output Not used (open)		
166	AUXMCKIN	I	External clock input (fixed at "L")		
167	XTALCK	I	Crystal oscillation circuit input		
168	XTAL	0	Crystal oscillation circuit output		
169	PDO0	0	Charge pump output		
170	VCNT0	I	VCO control voltage input		
171	R0	I	VCO bias resistor terminal		
172	AVDD		Power supply +3.3V (analog) for the clock		
173	AVSS	_	Ground terminal (analog)		
174	TEST4	I/O	ADCCKOUT clock output		
175	ROUT	0	DAC output Not used (open)		
176	AVDD		Power supply +5V (analog) for the internal DAC		
177	AVSS	_	Ground terminal (analog)		
178	LOUT	0	DAC output Not used (open)		
179	DACDATA	0	DAC serial data output Not used (open)		
180	DACLRCK	0	DAC LRCK output Not used (open)		
181	DACBCK	0	DAC BCK output Not used (open)		
182	DVDD		Power supply +3.3V (digital)		
183	DVSS		Ground terminal (digital)		
184	ADCDATA	I	ADC serial data input Not used (fixed at "L")		
185	ADCBCK	0	ADC BCK output Not used (open)		
186	ADCLRCK	0	ADC LRCK output Not used (open)		
187	AUXDATA	I	External serial data input Not used (open)		
188	AUXBCK	I	External BCK input Not used (fixed at "L")		
189	AUXLRCK	· I	External LRCK input Not used (fixed at "L")		

Pin No.	Pin Name	1/0	Description			
190	DVDD	_	er supply +5V (digital)			
191	DVSS	_	Ground terminal (digital)			
192	ADCSTBY	0	ADC standby signal output			
193	AUXTX	I	DIT data input Not used (fixed at "L")			
194	DITOUT	0	DIT data output			
195	TEST3	I/O	Used as EXTDACEMP input (fixed at "L")			
196	SBDATA	I/O	Sub-code I/F serial data input/output (fixed at "L")			
197	CLCK	I/O	b-code I/F data shift clock input/output (fixed at "L")			
198	SFSY	I/O	ub-code I/F frame sync signal input/output (fixed at "L")			
199	SBSY	I/O	Sub-code I/F block sync signal input/output (fixed at "L")			
200	ZRAS	0	Row address strobe signal output to the buffer RAM for audio data delay			
201	ZCAS	0	Column address strobe signal output to the buffer RAM for audio data delay			
202	ZWE	0	Write enable signal output to the buffer RAM for audio data delay			
203	ZOE	0	Read enable signal output to the buffer RAM for audio data delay			
204 to 207	RA0 to RA3	0	Address signal output to the buffer RAM for audio data delay			
208	DVDD		Power supply +3.3V (DRAM I/F)			

• IC501 HD6433064BA02FV μCOM (CDR Board)

• IC501	HD6433064BA02FV μCOM (CDR Board)					
Pin No.	Pin Name	1/0	Description			
1	VCL		Capacitor connection terminal for the internal power supply			
2	XCSCDR	0	Chip select signal output to the IC201			
3 to 5	NU		Not used (fixed at "H")			
6	XRSTRFP	0	Register reset signal output to the IC101			
7	XREQI	I	ta request signal from the IC1			
8	XRDYO	0	ata ready signal to the IC1			
9	XRSTCDR	0	eset signal to the IC201			
10	FWE	I	Flash memory write enable signal input			
11	VSS	_	Ground terminal			
12	SDATAO(PROM)	0	Serial data output to the IC101 and IC502			
13	SDATAO(HOST)	0	Serial data output to the IC1			
14	SDATAI(PROM)	I	Serial data input from the IC502			
15	SDATAI(HOST)	I	Serial data input from the IC1			
16	SCLKO	0	Clock output to the IC101 and IC502			
17	SUB_SYNC	I	Sub-code sync signal input from the IC201			
18	RSBETA	0	β measurement circuit reset signal output			
19, 20	NU		Not used (fixed at "H")			
21	MIRR/XRC	0	MIRR or RC selection signal output			
22	VSS	_	Ground terminal			
23	AGCON	0	AGC enable signal output to the IC101			
24	XRW/R	0	CD-RW selection signal output to the IC101			
25	VRDSW	0	Read laser driver time constant selection switch control signal output to the IC101			
26	VWDSW	0	Write laser driver time constant selection switch control signal output to the IC101			
27 to 34	D8 to D15	I/O	Data bus with the IC201			
35	VCC		Power supply (+5V)			
36 to 43	A0 to A7	0	Command register selection address signal output to the IC201			
44	VSS		Ground terminal			
45 to 56	A8 to A19	0	Not used (fixed at "H")			
57	VSS		Ground terminal			
58	NU		Not used			
59	CS	0	Chip select signal output to the IC502			
60	XLAT	0				
	ATIPSYNC	I	Data latch signal output to the IC101 ATIP SYNC signal input from the IC201			
61						
62	XSTBY	I	Not used (fixed at "H")			
63	XREST	I	System reset signal input			
64	XP.DOWN	I	Not used Consultation of the Consultation of t			
65	VSS		Ground terminal			
66	EXTAL	I	Ceramic resonator connection terminal			
67	XTAL	I	Ceramic resonator connection terminal			
68	VCC	_	Power supply (+5V)			
69	XAS	0	Not used			
70	XRD	0	Data read signal output to the IC201			
71	XHWR	0	Data write signal output to the IC201			
72	XLWR	0	Not used			
73	MD0(H)	I	Mode selector (fixed at "H")			
74	MD1(L)	<u>I</u>	Mode selector (fixed at "L")			
75	MD2	I	Mode selector (normally fixed at "H")			
76	AVCC		Power supply (+5V) for the A/D converter			
77	AVREF		Reference voltage for the A/D converter			
78	KEY	I	Key scan signal input			

Pin No.	Pin Name	1/0	Description
79	BCENT	I	Center signal input from the IC101
80	PHBETA	I	β signal top level signal input from the IC101
81	ВНВЕТА	I	β signal bottom level signal input from the IC101
82	VREF	1	Reference voltage input terminal
83	MPX	I	Monitor multiplexer signal input from the IC101
84	TMP	I	THERMOUT signal input
85	VWDC2	0	VWDC2 signal output to the optical pick-up
86	AVSS	_	Ground terminal for the A/D converter
87	XINTCDR	I	Interrupt request signal input from the IC201
88	RECD	I	Recorded block detection signal input from the IC101
89	XTAND	I	Tracking failure detection signal input from the IC101
90	SPFG	I	Not used
91	XIN/EXT	I	RS-232C "H" detection signal input
92	VSS		Ground terminal
93	SLFG	I	ENCOUT signal input
94	TZC	I	Tracking zero cross detection signal input from the IC101
95	SPFG	I	FG signal input from the motor driver (IC172)
96	XMMUTE	0	Muting signal output to the IC171 and IC172
97	INSW	I	LOAD IN switch (S170) signal input
98	OUTSW	I	LOAD OUT switch (S171) signal input
99	REV	0	Loading motor control signal output to the IC171
100	FWD	0	Loading motor control signal output to the IC171

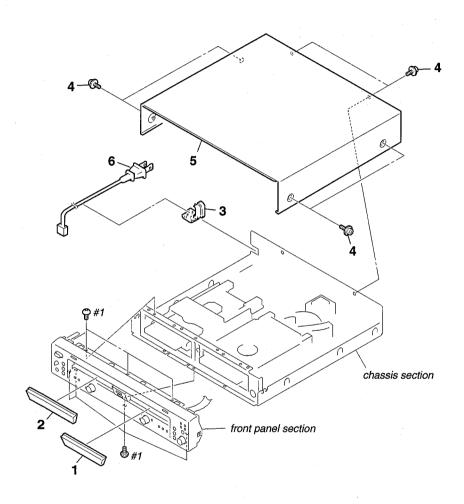
SECTION 7 EXPLODED VIEWS

NOTE:

- -XX, -X mean standardized parts, so they may
- have some differences from the original one. Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Accessories are given in the last of electrical

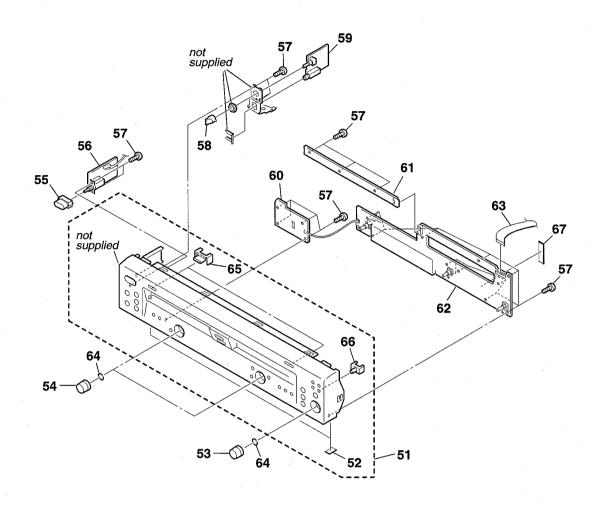
The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

7-1. Case Section



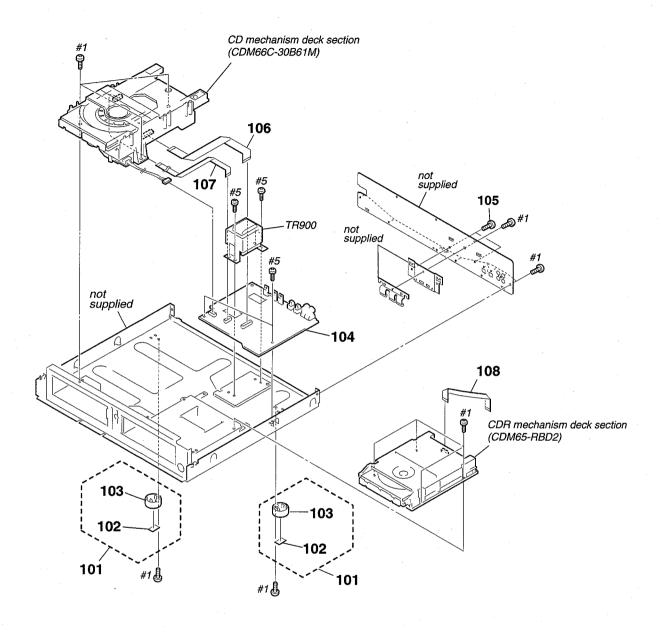
Ref. No.	Part No.	<u>Description</u>	<u>Remarks</u>	Ref. No.	Part No.	Description	<u>Remarks</u>
1 1 2 2 * 3	4-246-073-21 4-245-456-21 4-245-456-31	PANEL (CDR), LOADING(BLACK) PANEL (CDR), LOADING(SILVER) PANEL (CD), LOADING(SILVER) PANEL (CD), LOADING(BLACK) BUSHING (2104), CORD		4 5 5 ∆ 6 #1	4-231-686-11 4-231-686-31 1-775-787-41	SCREW (CASE 3 TP2)(SILVER) CASE (409538)(BLACK) CASE (409538)(SILVER) CORD, POWER SCREW +BVTP 3X8 TYPE2 IT-3	
4	4-210-291-01	SCREW (CASE 3 TP2)(BLACK)					

7-2. Front Panel Section



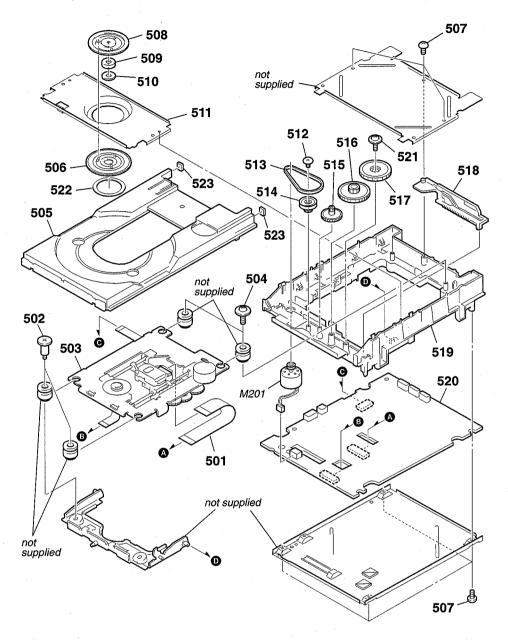
Ref. No.	Part No.	Description	<u>Remarks</u>	Ref. No.	Part No.	Description	<u>Remarks</u>
51	X-4955-529-1	PANEL ASSY, FRONT(BLACK)		58	3-931-378-51	KNOB (F10)(BLACK)	
51	X-4955-530-1	PANEL ASSY, FRONT(SILVER)		59	1-683-868-21	HP BOARD	
52	4-977-358-01	CUSHION		60	1-683-867-21	SW BOARD	
53	4-238-396-11	KNOB (AMS)(BLACK)		61	1-688-101-11	CD-EJECT BOARD	
53	4-238-396-41	KNOB (AMS)(SILVER)		62	A-4732-846-A	DISP BOARD, COMPLETE	
54	4-238-396-01	KNOB (AMS)		63	1-823-923-11	WIRE (FLAT TYPE) (21 CORE)	
55	4-231-973-01	BUTTON (POWER)(BLACK)		64	3-354-981-11	SPRING (SUS), RING	
55	4-231-973-11	BUTTON (POWER)(SILVER)		65	4-238-386-21	BUTTON (OPEN/CLOSE)(BLACK)	
56	1-683-869-21	POWER BOARD		65	4-238-386-41	BUTTON (OPEN/CLOSE)(SILVER)	
57	4-951-620-01	SCREW (2.6X8), +BVTP		66	4-238-385-01	BUTTON (SBM)	
58	3-931-378-31	KNOB (F10)(SILVER)		67	3-378-434-01	CUSHION, SARANET	

7-3. Chassis Section



Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	<u>Remarks</u>
101	X-4953-448-1	FOOT ASSY		107	1-782-545-11	WIRE (FLAT TYPE)(9 CORE)	
102	4-977-358-01	CUSHION		108	1-823-922-11	WIRE (FLAT TYPE)(11 CORE)	
103	4-232-237-01	FOOT (DIA. 30)		△TR900	1-439-733-11	TRANSFORMER, POWER	
104	A-4732-843-A	MAIN BOARD, COMPLETE	-	#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3	
105	3-703-249-01	SCREW, S TIGHT, +PTTWH 3X6		#5	7-685-871-01	SCREW +BVTT 3X6 (S)	
106	1-782-755-11	WIRE (FLAT TYPE)(25 CORE)					

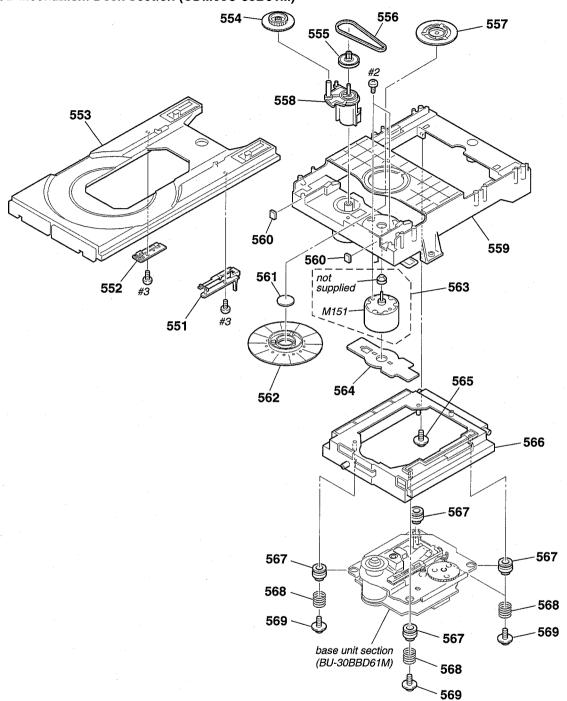
7-4. CD Mechanism Deck Section (CDM65-RBD2)



Ref. No.	Part No.	Description	<u>Remarks</u>	Ref. No.	<u>Part No.</u>	<u>Description</u>	Remarks
501	1-823-651-11	CABLE, FLEXIBLE FLAT (32 CORE)		515	4-237-177-02	GEAR (A)	
502	4-237-168-01	SCREW, STEP		516	4-237-178-02	GEAR (B)	
 ∆ 503	8-583-104-01	OPTICAL PICK-UP (KRM-220CAA)		517	4-237-179-02	GEAR (C)	
504	4-237-167-01	SCREW (2X9) (G WITH),+P TAPPIN		518	4-237-180-01	CAM (CH)	
505	4-237-181-01	TRAY		519	4-237-182-01	CHASSIS	
506	4-237-174-01	PULLEY (MAG)		520	A-4732-808-A	CDR BOARD, COMPLETE	
507	4-951-620-01	SCREW (2.6X8), +BVTP		521	3-341-549-01	SCREW(2.6X8)(DIA.7.5),+ PTP WH	
508	,	PULLEY (UPPER), PRESS		522	4-240-987-01	SHEET (DR)	
* 509	1-452-958-11	MAGNET (CHUCKING)		523	4-232-682-01	CUSHION (66)	
* 510	4-974-710-11	YOKE, PULLEY		M201	A-4735-557-A	MOTOR ASSY (LOADING)	
511	4-237-172-01	HOLDER (MG)					
512	4-974-711-01	` '					
513	4-999-537-01	BELT (LOADING)					
514	4-237-176-02	,				The components identified by ma	ark A or
						dotted line with mark A are critical	

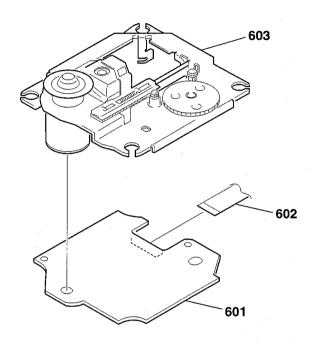
dotted line with mark \triangle are critical for safety. Replace only with part number specified.

7-5. CD Mechanism Deck Section (CDM66C-30B61M)



Ref. No.	Part No.	<u>Description</u>	Remarks	Ref. No.	Part No.	Description	Remarks
551	4-238-370-02	LEVER (SW)		562	X-4954-474-1	PULLEY ASSY, CHUCKING	
552	4-238-371-01	LEVER (STP)		563	A-4604-363-A	MOTOR (L) ASSY (LOADING)	
553	4-231-530-05	TRAY (66)		564	1-645-721-11	LOADING BOARD	
554	4-232-711-01	GEAR (LD)		565	4-227-899-01	SCREW (DIA. 12), FLOATING	
555	4-232-710-01	PULLEY (LD)		566	4-238-369-02	HOLDER (BU)	
556	4-232-713-01	BELT (LD)		567	4-240-820-01	INSULATOR (B) (BU-30B)	
557	4-238-368-01	PULLEY (B), CHUCKING		568	4-238-372-01		N
558	4-232-712-01	CAM (66)		569	4-985-672-01	SCREW (+PTPWH M2.6), FLOATING	
559	4-231-529-04	CHASSIS (66)	9	M151	1-541-632-12	MOTOR, DC (LOADING)	
560	4-232-682-01	CUSHION (66)		#2	7-621-775-10	SCREW +B 2.6X4	
561	4-228-414-01	BRACKET (YOKE)		#3	7-685-133-19	SCREW +P 2.6X6 TYPE2 NON-SLIT	

7-6. Base Unit Section (BU-30BBD61M)



Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description
601 602		BD BOARD, COMPLETE WIRE (FLAT TYPE) (16 CORE)		603	A-4735-885-A	BU-30B ASSY

The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

<u>Remarks</u>



SECTION 8 ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service.
 Some delay should be anticipated when ordering these items.
- RESISTORS
 All resistors are in ohms.
 METAL: metal-film resistor
 METAL OXIDE: Metal Oxide-film resistor
 F: nonflammable
- SEMICONDUCTORS
 In each case, u: μ, for example:
 uA...: μA..., uPA..., μPA...,
 uPB..., μPB..., uPC..., μPC...,
 uPD..., μPD...
- CAPACITORS:
- uF: μF
- COILS υH: μΗ

When indicating parts by reference number, please include the board name.

Bed No. Part No. Description Bemarks Bed No. Bed												
C222	Ref. No.	<u>Part No.</u>	<u>Description</u>			<u>Remarks</u>	Ref. No.	Part No.	Description			<u>Remarks</u>
C102		A-4732-100-A									10%	
C102			*********	****			G222	1-115-156-11	CERAMIC CHIP	TUF		100
C102			< CAPACITOR >				C224	1-115-156-11	CERAMIC CHIP	1uF		10V
C104							C226	1-126-607-11	ELECT CHIP	47uF	20%	4V
C104	C102	1-107-826-11	CERAMIC CHIP	0.1uF	10.00%	16V	C227	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C107		1-164-315-11	CERAMIC CHIP	470PF	5.00%	50V	C228	1-115-156-11	CERAMIC CHIP	1uF		10V
C108									CERAMIC CHIP	0.1uF		16V
Color												
C109					070		C230	1-164-360-11	CERAMIC CHIP	0.1uE		16V
C100	0100	1 10-1 000 11	OLI WINIO OI III	0.141							20%	
C119	C100	1_16/_360_11	CERAMIC CHIP	0.1uE		16V						
C112					10.00%		Į.				1070	
C113												
C113					20 /0		0230	1-104-300-11	OLIMANIO OTIII	U.Tui		10 4
C114					200/		0051	1 164 260 11	CEDAMIC CHID	0 1 uE		161/
C114	6113	1-128-995-21	ELECT CHIP	TOUUF	2070	100						
C115	0111	3 400 004 44	OFDANIO OURD	0.004E	4.00/	E01/					0.5005	
C116											U.SUPF	
C117												
C118					10.00%		C256	1-164-360-11	CERAMIC CHIP	0.1 u F		167
C119												
C119	C118	1-115-156-11	CERAMIC CHIP	1uF		10V						
C121											0.50PF	
C131	C119						C259					
C132	C121	1-164-360-11	CERAMIC CHIP	0.1uF			C260				20%	
C133	C131	1-110-563-11	CERAMIC CHIP	0.068นF	10.00%	16V	C266	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C133	C132	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V						
C150 1-128-394-11 ELECT CHIP 220 20 10		1-125-838-11	CERAMIC CHIP	2.2uF	10%	6.3V	C270	1-162-960-11	CERAMIC CHIP	220PF	10%	50V
C151 1-164-360-11 CERAMIC CHIP 0.1uF 16V C277 1-216-864-11 METAL CHIP 0.01uF 10% 25V C152 1-164-360-11 CERAMIC CHIP 0.1uF 16V C277 1-216-864-11 METAL CHIP 0 5% 1/10W C153 1-164-360-11 CERAMIC CHIP 0.0047uF 10% 50V C292 1-164-360-11 CERAMIC CHIP 0.0047uF 10% 50V C301 1-115-414-11 CERAMIC CHIP 0.001uF 10% 25V C301 1-115-414-11 CERAMIC CHIP 0.001uF 10% 25V C302 1-162-966-11 CERAMIC CHIP 0.001uF 10% 25V C303 1-162-966-11 CERAMIC CHIP 0.001uF 10% 25V C303 1-162-966-11 CERAMIC CHIP 0.1uF 16V C301 1-125-838-11 CERAMIC CHIP 0.1uF 10.00% 16V C301 1-125-838-11 CERAMIC CHIP 0.1uF 10.00% 16V C301 1-164-360-11 CERAMIC CHIP 0.1uF 10.00% 16V C303 1-164-360-11 CERAMIC CHIP 0.1uF 10.00% 16V C304 1-125-838-11 CERAMIC CHIP 0.1uF 10.00% 16V C305 1-162-970-11 CERAMIC CHIP 0.1uF 16V C307 1-164-360-11 CERAMIC CHIP 0.1uF 10.00% 16V C307 1-164-360-11 CERAMIC CHIP 0.1uF 16V C301 1-164-360-11 CERAMIC CHIP 0.1uF 10.00% 16V C301 1-164-360-11 CERAMIC CHIP 0.1uF 10.00% 16V C303 1-164-360-11 CERAMIC CHIP 0.							C271	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C151 1-164-360-11 CERAMIC CHIP 0.1uF 16V C277 1-216-864-11 CERAMIC CHIP 0.1uF 16V C277 1-216-864-11 CERAMIC CHIP 0.1uF 16V C277 1-216-864-11 CERAMIC CHIP 0.1uF 16V C301 1-164-360-11 CERAMIC CHIP 0.0047uF 10% 50V C301 1-115-416-11 CERAMIC CHIP 0.001uF 5.00% 25V C302 1-164-360-11 CERAMIC CHIP 0.001uF 5.00% 25V C302 1-162-966-11 CERAMIC CHIP 0.001uF 10% 25V C303 1-162-966-11 CERAMIC CHIP 0.001uF 10% 25V C303 1-162-966-11 CERAMIC CHIP 0.1uF 10.00% 16V C301 1-125-838-11 CERAMIC CHIP 0.1uF 10.00% 16V C301 1-125-838-11 CERAMIC CHIP 0.1uF 10.00% 16V C301 1-164-360-11 CERAMIC CHIP 0.1uF 10.00% 16V C301 1-164	C150	1-128-394-11	ELECT CHIP	220uF	20%	10V	C273	1-162-960-11	CERAMIC CHIP	220PF	10%	50V
C152 1-164-360-11 CERAMIC CHIP 0.1uF 16V C153 1-164-360-11 CERAMIC CHIP 0.1uF 16V C153 1-164-360-11 CERAMIC CHIP 0.1uF 16V C292 1-164-360-11 CERAMIC CHIP 0.1uF 16V C301 1-115-414-11 CERAMIC CHIP 0.0041 1-10 50V C301 1-115-414-11 CERAMIC CHIP 0.002uF 10 50V C301 1-115-414-11 CERAMIC CHIP 0.002uF 10 50V C301 1-115-414-11 CERAMIC CHIP 0.1uF 16V C301 1-128-838-11 CERAMIC CHIP 0.1uF 16V C301 1-128-838-11 CERAMIC CHIP 0.1uF 10.00% 16V C307 1-162-970-11 CERAMIC CHIP 0.1uF 10.00% 16V C307 1-162-970-11 CERAMIC CHIP 0.1uF 10.00% 16V C307 1-164-360-11 CERAMIC CHIP 0.1uF 10.00% 16V C307 1-164-360-11 CERAMIC CHIP 0.1uF 10.00% 16V C307 1-164-360-11 CERAMIC CHIP 0.1uF 16V C307 1-164-360-11 CERAMIC CHIP 0.1uF 10.00% 16V C307 1-164-360-11 CERAMIC CHIP 0.1uF 16V C309 1-164-360-11 C							1			0.01uF	10%	25V
C153						16V	C277	1-216-864-11	METAL CHIP	0	5%	1/10W
C156							•=					
C157 1-115-416-11 CERAMIC CHIP 0.001uF 5.00% 25V C158 1-162-970-11 CERAMIC CHIP 0.01uF 100PF 5% 50V C159 1-162-927-11 CERAMIC CHIP 0.1uF 10.00% 16V C160 1-107-826-11 CERAMIC CHIP 0.1uF 10.00% 16V C161 1-107-826-11 CERAMIC CHIP 0.1uF 10.00% 16V C163 1-107-826-11 CERAMIC CHIP 0.1uF 10.00% 16V C164 1-107-826-11 CERAMIC CHIP 0.1uF 10.00% 16V C165 1-107-826-11 CERAMIC CHIP 0.1uF 10.00% 16V C165 1-107-826-11 CERAMIC CHIP 0.1uF 10.00% 16V C166 1-128-394-11 ELECT CHIP 0.1uF 10.00% 16V C202 1-164-360-11 CERAMIC CHIP 0.1uF 10.00% 16V C203 1-162-964-11 CERAMIC CHIP 0.1uF 10.00% 16V C204 1-164-360-11 CERAMIC CHIP 0.1uF 10.00% 16V C205 1-164-360-11 CERAMIC CHIP 0.1uF 16V C206 1-164-360-11 CERAMIC CHIP 0.1uF 16V C207 1-164-360-11 CERAMIC CHIP 0.1uF 10.00% 16V C208 1-164-360-11 CERAMIC CHIP 0.1uF 16V C209 1-164-360-11 CERAMIC CHIP 0.1uF 16V C209 1-164-360-11 CERAMIC CHIP 0.1uF 16V C201 1-117-863-11 CERAMIC CHIP 0.1uF 16V C202 1-164-360-11 CERAMIC CHIP 0.1uF 16V C203 1-162-964-11 CERAMIC CHIP 0.1uF 16V C204 1-164-360-11 CERAMIC CHIP 0.1uF 16V C205 1-164-360-11 CERAMIC CHIP 0.1uF 16V C206 1-164-360-11 CERAMIC CHIP 0.1uF 16V C207 1-164-360-11 CERAMIC CHIP 0.1uF 16V C208 1-164-360-11 CERAMIC CHIP 0.1uF 16V C209 1-164-360-11 CERAMIC CHIP 0.1uF 16V C210 1-115-414-11 CERAMIC CHIP 0.47uF 10.00% 6.3V C211 1-117-863-11 CERAMIC CHIP 0.47uF 10.00% 6.3V C212 1-164-315-11 CERAMIC CHIP 0.47uF 5.00% 50V C213 1-115-414-11 CERAMIC CHIP 0.5% 1/10W C213 1-115-414-11 CERAMIC CHIP 0.001 F 5.00% 50V C214 1-115-414-11 CERAMIC CHIP 0.5% 1/10W					10%		C292	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C157 1-115-416-11 CERAMIC CHIP 0.001uF 5.00% 25V C158 1-162-970-11 CERAMIC CHIP 0.01uF 10% 25V C159 1-162-927-11 CERAMIC CHIP 100PF 5% 50V C303 1-164-360-11 CERAMIC CHIP 0.1uF 16V C160 1-107-826-11 CERAMIC CHIP 0.1uF 10.00% 16V C161 1-107-826-11 CERAMIC CHIP 0.1uF 10.00% 16V C163 1-107-826-11 CERAMIC CHIP 0.1uF 10.00% 16V C164 1-107-826-11 CERAMIC CHIP 0.1uF 10.00% 16V C165 1-107-826-11 CERAMIC CHIP 0.1uF 10.00% 16V C305 1-164-360-11 CERAMIC CHIP 0.1uF 16V C305 1-164-360-11 CERAMIC CHIP 0.1uF 16V C306 1-164-360-11 CERAMIC CHIP 0.1uF 16V C307 1-164-360-11 C307 1-164	0100	1 102 000 11	OLI II III O OI III	0.00 17 01	1070	001					5.00%	
C158	0157	1-115-416-11	CERAMIC CHIP	0.001uE	5.00%	25V						
C159 1-162-927-11 CERAMIC CHIP 100PF 5% 50V C160 1-107-826-11 CERAMIC CHIP 0.1uF 10.00% 16V C161 1-107-826-11 CERAMIC CHIP 0.1uF 10.00% 16V C307 1-164-360-11 CERAMIC CHIP 0.1uF 16V C164 1-107-826-11 CERAMIC CHIP 0.1uF 10.00% 16V C165 1-107-826-11 CERAMIC CHIP 0.1uF 10.00% 16V C169 1-128-394-11 ELECT CHIP 220uF 20% 10V C202 1-164-360-11 CERAMIC CHIP 0.1uF 16V CN103 1-784-875-21 CONNECTOR, FCC/FPC 16P CN103 1-784-875-21 CONNECTOR, FCC/FPC 16P CN103 1-784-861-21 CONNECTOR, FFC(LIF(NON-ZIF))9P C205 1-164-360-11 CERAMIC CHIP 0.1uF 16V C208 1-164-360-11 CERAMIC CHIP 0.1uF 16V C208 1-164-360-11 CERAMIC CHIP 0.1uF 16V C208 1-164-360-11 CERAMIC CHIP 0.1uF 16V C209 1-164-230-11 CERAMIC CHIP 0.1uF 16V C209 1-164-230-11 CERAMIC CHIP 0.1uF 16V C209 1-164-230-11 CERAMIC CHIP 0.47uF 10.00% 6.3V FB101 1-216-295-91 SHORT CHIP 0 5% 1/10W C212 1-164-315-11 CERAMIC CHIP 470PF 5.00% 50V FB103 1-216-864-11 METAL CHIP 0 5% 1/10W C213 1-115-414-11 CERAMIC CHIP 820PF 5.00% 50V FB104 1-216-864-11 METAL CHIP 0 5% 1/10W C213 1-115-414-11 CERAMIC CHIP 820PF 5.00% 25V FB104 1-216-864-11 METAL CHIP 0 5% 1/10W											1070	
C160 1-107-826-11 CERAMIC CHIP 0.1uF 10.00% 16V C161 1-107-826-11 CERAMIC CHIP 0.1uF 10.00% 16V C307 1-164-360-11 CERAMIC CHIP 0.1uF 10.00% 16V C164 1-107-826-11 CERAMIC CHIP 0.1uF 10.00% 16V C165 1-164-360-11 CERAMIC CHIP 0.1uF 10.00% 16V C202 1-164-360-11 CERAMIC CHIP 0.1uF 10.00% 16V C200 1-164-360-11 CERAMIC CHIP 0.1uF 16V C203 1-162-964-11 CERAMIC CHIP 0.1uF 16V C203 1-164-360-11 CERAMIC CHIP 0.47uF 10.00% 6.3V FB101 1-216-295-91 SHORT CHIP 0 5% 1/10W C213 1-115-414-11 CERAMIC CHIP 820PF 5.00% 50V FB103 1-216-864-11 METAL CHIP 0 5% 1/10W C213 1-115-414-11 CERAMIC CHIP 820PF 5.00% 25V FB104 1-216-864-11 METAL CHIP 0 5% 1/10W C213 1-115-414-11 CERAMIC CHIP 820PF 5.00% 25V FB104 1-216-864-11 METAL CHIP 0 5% 1/10W											10%	
C161 1-107-826-11 CERAMIC CHIP 0.1uF 10.00% 16V							0004	1 120 000 11	OLIMANIO OTIII	2.2ui	10 /0	0.00
C163 1-107-826-11 CERAMIC CHIP 0.1uF 10.00% 16V C164 1-107-826-11 CERAMIC CHIP 0.1uF 10.00% 16V C165 1-107-826-11 CERAMIC CHIP 0.1uF 10.00% 16V C169 1-128-394-11 ELECT CHIP 220uF 20% 10V C202 1-164-360-11 CERAMIC CHIP 0.1uF 16V CNNECTOR > C203 1-162-964-11 CERAMIC CHIP 0.1uF 16V C205 1-164-360-11 CERAMIC CHIP 0.1uF 16V C208 1-164-360-11 CERAMIC CHIP 0.1uF 16V C208 1-164-360-11 CERAMIC CHIP 0.1uF 16V C209 1-164-230-11 CERAMIC CHIP 0.1uF 16V C209 1-164-230-11 CERAMIC CHIP 0.47uF 10.00% 6.3V FB101 1-216-295-91 SHORT CHIP 0 5% 1/10W C212 1-164-315-11 CERAMIC CHIP 470PF 5.00% 50V FB103 1-216-864-11 METAL CHIP 0 5% 1/10W C213 1-115-414-11 CERAMIC CHIP 820PF 5.00% 25V FB104 1-216-864-11 METAL CHIP 0 5% 1/10W C310 1-164-360-11 CERAMIC CHIP 0 10.00% 16V C310 1-164-360-11 CERAMIC CHIP 0 5% 1/10W C310 1-164-360-11 CERAMIC CHIP							CSUE	1_162_070_11	CERAMIC CHIP	0.01uE	10%	251/
C163 1-107-826-11 CERAMIC CHIP 0.1uF 10.00% 16V C164 1-107-826-11 CERAMIC CHIP 0.1uF 10.00% 16V C165 1-107-826-11 CERAMIC CHIP 0.1uF 10.00% 16V C169 1-128-394-11 ELECT CHIP 220uF 20% 10V C202 1-164-360-11 CERAMIC CHIP 0.1uF 16V CN103 1-784-875-21 CONNECTOR, FCC/FPC 16P CN103 1-784-875-21 CONNECTOR, FFC(LIF(NON-ZIF))25P C203 1-164-360-11 CERAMIC CHIP 0.1uF 16V C208 1-164-360-11 CERAMIC CHIP 0.1uF 16V C208 1-164-360-11 CERAMIC CHIP 0.1uF 16V C209 1-164-230-11 CERAMIC CHIP 0.1uF 16V C209 1-164-230-11 CERAMIC CHIP 0.47uF 10.00% 6.3V FB101 1-216-295-91 SHORT CHIP 0 5% 1/10W C212 1-164-315-11 CERAMIC CHIP 470PF 5.00% 50V FB103 1-216-864-11 METAL CHIP 0 5% 1/10W C213 1-115-414-11 CERAMIC CHIP 820PF 5.00% 25V FB104 1-216-864-11 METAL CHIP 0 5% 1/10W	6161	1-107-020-11	GENAIVIIG GITIF	U. FUF	10.00 /6	100	1				10 70	
C164 1-107-826-11 CERAMIC CHIP 0.1uF 10.00% 16V C165 1-107-826-11 CERAMIC CHIP 0.1uF 10.00% 16V C169 1-128-394-11 ELECT CHIP 220uF 20% 10V C202 1-164-360-11 CERAMIC CHIP 0.1uF 16V C203 1-162-964-11 CERAMIC CHIP 0.001uF 10% 50V C205 1-164-360-11 CERAMIC CHIP 0.1uF 16V C208 1-164-360-11 CERAMIC CHIP 0.1uF 16V C208 1-164-360-11 CERAMIC CHIP 0.1uF 16V C209 1-164-230-11 CERAMIC CHIP 0.1uF 16V C211 1-117-863-11 CERAMIC CHIP 0.47uF 10.00% 6.3V C212 1-164-315-11 CERAMIC CHIP 470PF 5.00% 50V C213 1-115-414-11 CERAMIC CHIP 820PF 5.00% 25V FB104 1-216-864-11 METAL CHIP 0 5% 1/10W C213 1-115-414-11 CERAMIC CHIP 820PF 5.00% 25V FB104 1-216-864-11 METAL CHIP 0 5% 1/10W	04.00	1 107 000 11	OED AMIC CLUD	0.4	10.000/	101/	1					
C165 1-107-826-11 CERAMIC CHIP 0.1uF 10.00% 16V C202 1-164-360-11 CERAMIC CHIP 0.1uF 16V CN103 1-784-875-21 CONNECTOR, FCC/FPC 16P CN103 1-784-875-21 CONNECTOR, FFC(LIF(NON-ZIF))25P C203 1-164-360-11 CERAMIC CHIP 0.1uF 16V C205 1-164-360-11 CERAMIC CHIP 0.1uF 16V C208 1-164-360-11 CERAMIC CHIP 0.1uF 16V C209 1-164-230-11 CERAMIC CHIP 0.1uF 16V C209 1-164-230-11 CERAMIC CHIP 0.47uF 10.00% 6.3V FB101 1-216-295-91 SHORT CHIP 0 5% 1/10W C212 1-164-315-11 CERAMIC CHIP 470PF 5.00% 50V FB103 1-216-864-11 METAL CHIP 0 5% 1/10W C213 1-115-414-11 CERAMIC CHIP 820PF 5.00% 25V FB104 1-216-864-11 METAL CHIP 0 5% 1/10W C210 1-115-414-11 CERAMIC CHIP 820PF 5.00% 25V FB104 1-216-864-11 METAL CHIP 0 5% 1/10W C210 1-115-414-11 CERAMIC CHIP 820PF 5.00% 25V FB104 1-216-864-11 METAL CHIP 0 5% 1/10W C210 1-216-864-11							6310	1-104-300-11	CENAIMIC CHIP	U.Tur		100
C169 1-128-394-11 ELECT CHIP 220uF 20% 10V C202 1-164-360-11 CERAMIC CHIP 0.1uF 16V CN101 1-794-424-11 CONNECTOR, FCC/FPC 16P CN103 1-784-875-21 CONNECTOR, FFC(LIF(NON-ZIF))25P C203 1-162-964-11 CERAMIC CHIP 0.1uF 16V C205 1-164-360-11 CERAMIC CHIP 0.1uF 16V C208 1-164-360-11 CERAMIC CHIP 0.1uF 16V C209 1-164-230-11 CERAMIC CHIP 220PF 5.00% 50V C211 1-117-863-11 CERAMIC CHIP 0.47uF 10.00% 6.3V FB101 1-216-295-91 SHORT CHIP 0 FB102 1-216-864-11 METAL CHIP 0 5% 1/10W C212 1-164-315-11 CERAMIC CHIP 470PF 5.00% 50V C213 1-115-414-11 CERAMIC CHIP 820PF 5.00% 25V FB104 1-216-864-11 METAL CHIP 0 5% 1/10W									COMMECTOR			
C202 1-164-360-11 CERAMIC CHIP 0.1uF 16V CN101 1-794-424-11 CONNECTOR, FCC/FPC 16P CN103 1-784-875-21 CONNECTOR, FFC(LIF(NON-ZIF))25P CN103 1-784-861-21 CONNECTOR, FFC(LIF(NON-ZIF))25P CN103 1-784-861-21 CONNECTOR, FFC(LIF(NON-ZIF))25P CN105 1-784-861-21 CONNEC									< CONNECTOR >			
CN103 1-784-875-21 CONNECTOR,FFC(LIF(NON-ZIF))25P C203 1-164-360-11 CERAMIC CHIP 0.001uF 16V C205 1-164-360-11 CERAMIC CHIP 0.1uF 16V C208 1-164-360-11 CERAMIC CHIP 0.1uF 16V C209 1-164-230-11 CERAMIC CHIP 220PF 5.00% 50V C211 1-117-863-11 CERAMIC CHIP 0.47uF 10.00% 6.3V C212 1-164-315-11 CERAMIC CHIP 470PF 5.00% 50V C213 1-115-414-11 CERAMIC CHIP 820PF 5.00% 25V FB103 1-216-864-11 METAL CHIP 0 5% 1/10W C213 1-115-414-11 CERAMIC CHIP 820PF 5.00% 25V FB104 1-216-864-11 METAL CHIP 0 5% 1/10W					20%			1 704 404 44	00111150700 500	VEDO 40D		
C203 1-162-964-11 CERAMIC CHIP 0.001uF 10% 50V C205 1-164-360-11 CERAMIC CHIP 0.1uF 16V C208 1-164-360-11 CERAMIC CHIP 0.1uF 16V C209 1-164-230-11 CERAMIC CHIP 220PF 5.00% 50V C211 1-117-863-11 CERAMIC CHIP 0.47uF 10.00% 6.3V FB101 1-216-295-91 SHORT CHIP 0 5% 1/10W C212 1-164-315-11 CERAMIC CHIP 470PF 5.00% 50V C213 1-115-414-11 CERAMIC CHIP 820PF 5.00% 25V FB104 1-216-864-11 METAL CHIP 0 5% 1/10W C213 1-115-414-11 CERAMIC CHIP 820PF 5.00% 25V FB104 1-216-864-11 METAL CHIP 0 5% 1/10W	C202	1-164-360-11	CERAMIC CHIP	0.1uF		16V						
C205 1-164-360-11 CERAMIC CHIP 0.1uF 16V C208 1-164-360-11 CERAMIC CHIP 0.1uF 16V C209 1-164-230-11 CERAMIC CHIP 220PF 5.00% 50V C211 1-117-863-11 CERAMIC CHIP 0.47uF 10.00% 6.3V FB101 1-216-295-91 SHORT CHIP 0 FB102 1-216-864-11 METAL CHIP 0 5% 1/10W C212 1-164-315-11 CERAMIC CHIP 470PF 5.00% 50V C213 1-115-414-11 CERAMIC CHIP 820PF 5.00% 25V FB104 1-216-864-11 METAL CHIP 0 5% 1/10W				_			ti .					
C208 1-164-360-11 CERAMIC CHIP 0.1uF 16V		1-162-964-11			10%		CN105	1-784-861 - 21	CONNECTOR, FFO	C(LIF(NON-Z	(IF))9P	
C209 1-164-230-11 CERAMIC CHIP 220PF 5.00% 50V C211 1-117-863-11 CERAMIC CHIP 0.47uF 10.00% 6.3V FB101 1-216-295-91 SHORT CHIP 0 FB102 1-216-864-11 METAL CHIP 0 5% 1/10W C212 1-164-315-11 CERAMIC CHIP 470PF 5.00% 50V FB103 1-216-864-11 METAL CHIP 0 5% 1/10W C213 1-115-414-11 CERAMIC CHIP 820PF 5.00% 25V FB104 1-216-864-11 METAL CHIP 0 5% 1/10W												
C211 1-117-863-11 CERAMIC CHIP 0.47uF 10.00% 6.3V FB101 1-216-295-91 SHORT CHIP 0 FB102 1-216-864-11 METAL CHIP 0 5% 1/10W FB103 1-216-864-11 METAL CHIP 0 5% 1/10W FB103 1-216-864-11 METAL CHIP 0 5% 1/10W FB104 1-216-864-11 METAL CHIP 0 5% 1/10W									< FERRITE BEAD	>		
FB102 1-216-864-11 METAL CHIP 0 5% 1/10W C212 1-164-315-11 CERAMIC CHIP 470PF 5.00% 50V C213 1-115-414-11 CERAMIC CHIP 820PF 5.00% 25V FB103 1-216-864-11 METAL CHIP 0 5% 1/10W FB104 1-216-864-11 METAL CHIP 0 5% 1/10W	C209		CERAMIC CHIP	220PF								
C212 1-164-315-11 CERAMIC CHIP 470PF 5.00% 50V FB102 1-216-864-11 METAL CHIP 0 5% 1/10W FB103 1-216-864-11 METAL CHIP 0 5% 1/10W FB103 1-216-864-11 METAL CHIP 0 5% 1/10W FB104 1-216-864-11 METAL CHIP 0 5% 1/10W	C211	1-117-863-11	CERAMIC CHIP	0.47uF	10.00%	6.3V	FB101	1-216-295-91	SHORT CHIP	0		
C213 1-115-414-11 CERAMIC CHIP 820PF 5.00% 25V FB104 1-216-864-11 METAL CHIP 0 5% 1/10W							FB102	1-216-864-11	METAL CHIP	0		
C213 1-115-414-11 CERAMIC CHIP 820PF 5.00% 25V FB104 1-216-864-11 METAL CHIP 0 5% 1/10W	C212	1-164-315-11	CERAMIC CHIP	470PF	5.00%	50V	FB103	1-216-864-11	METAL CHIP	0	5%	1/10 W
			CERAMIC CHIP	820PF	5.00%	25V		1-216-864-11	METAL CHIP	0	5%	1/10W
		1-117-863-11	CERAMIC CHIP	0.47uF	10.00%	6.3V	* FB161	1-469-670-21	FERRITE	OuH		

BD

Ref. No.	Part No.	Description			Remarks	Ref. No.	Part No.	Description			<u>Remarks</u>
FB201			0		HOHIGHA				4014		
* FB201	1-216-295-91		0			R204	1-216-833-11	METAL CHIP	10K	5%	1/10W
FB202	1-469-670-21 1-500-283-11		OuH OuH			R205	1-216-823-11	METAL CHIP	1.5K	5%	1/10 W
FB291	1-216-864-11		0	5%	1/10W	R206	1-216-850-11	METAL CHIP	270K	5%	1/10 W
FB351	1-216-864-11		0	5%	1/10W	R207	1-216-853-11	METAL CHIP	470K	5%	1/10 W
1 000 1	1,210,004,11	WILLIAL OTT	U	370	171000	R208	1-216-811-11	METAL CHIP	150	5%	1/10 W
		< IC >				R216	1-216-857-11	METAL CHIP	1M	5%	1/10 W
		(10)				R218	1-216-821-11	METAL CHIP	1K	5%	1/10W
IC101	8-752-408-73	IC CXD3068Q				11210	1 210 021 11	WE THE OTT		0 /0	1/1000
IC102	8-759-713-71					R219	1-216-821-11	METAL CHIP	1K	5%	1/10W
IC103	8-752-106-21		T4			R220	1-216-821-11	METAL CHIP	1K	5%	1/10W
IC104	6-704-150-01	IC CXD9717R-0	800			R221	1-216-809-11	METAL CHIP	100	5%	1/10W
IC105	8-759-833-99	IC TC74HC405	2AFT(EL)			R222	1-216-809-11	METAL CHIP	100	5%	1/10W
						R223	1-216-809-11	METAL CHIP	100	5%	1/10W
IC122	6-701-808-01	IC BA33C25FP-	-E2								
						R224	1-216-809-11		100	5%	1/10W
		< JUMPER RESI	STOR >			R225	1-216-809-11	METAL CHIP	100	5%	1/10 W
			_			R226	1-216-809-11	METAL CHIP	100	5%	1/10 W
JR2	1-216-864-11	METAL CHIP	0	5%	1/10W	R227	1-216-809-11	METAL CHIP	100	5%	1/10W
		0011				R228	1-216-809-11	METAL CHIP	100	5%	1/10W
		< COIL >				5000	1 010 000 11	******	400	===	
1.400	1 110 007 01	INDUCTOR	0.4.11			R229	1-216-809-11	METAL CHIP	100	5%	1/10W
L163	1-412-967-31	INDUCTOR	0.1uH			R230	1-216-811-11		150	5%	1/10W
	*	< TRANSISTOR				R231 R232	1-216-815-11		330	5%	1/10W
		CINANSISTON	>			R233	1-216-815-11 1-216-815-11	METAL CHIP METAL CHIP	330 330	5% 5%	1/10W 1/10W
Q101	8-720-046-00	TRANSISTOR	2SB970-	/TY) Sn		nzoo	1-210-010-11	WE IAL OTH	330	3%	1/1044
Q I O I	0 723 040 30	MANOISTON	200310	(17).00		R249	1-216-818-11	METAL CHIP	560	5%	1/10W
		< RESISTOR >				R250	1-216-813-11		220	5%	1/10W
		11.201010117				R251	1-216-813-11	METAL CHIP	220	5%	1/10W
R101	1-216-864-11	METAL CHIP	0 -	5%	1/10W	R252	1-216-833-11	METAL CHIP	10K	5%	1/10W
R102	1-216-835-11	METAL CHIP	15K	5%	1/10W	R253	1-216-813-11	METAL CHIP	220	5%	1/10W
R103	1-216-845-11	METAL CHIP	100K	5%	1/10W					0.0	.,
R104	1-216-835-11	METAL CHIP	15K	5%	1/10W	R255	1-216-809-11	METAL CHIP	100	5%	1/10W
R105	1-216-821-11	METAL CHIP	1K	5%	1/10W	R257	1-216-809-11	METAL CHIP	100	5%	1/10W
						R259	1-216-809-11	METAL CHIP	100	5%	1/10W
R111	1-216-847-11	METAL CHIP	150K	5%	1/10W	R260	1-216-821-11	METAL CHIP	1K	5%	1/10W
R113	1-218-701-11	METAL CHIP	2.4K	5%	1/10W	R271	1-216-833-11	METAL CHIP	10K	5%	1/10W
R114	1-216-852-11	METAL CHIP	390K	5%	1/10W						
R115	1-216-839-11	METAL CHIP	33K	5%	1/10W	R272	1-216-829-11		4.7K	5%	1/10W
R116	1-216-839-11	METAL CHIP	33K	5%	1/10W	R275	1-216-833-11	METAL CHIP	10 K	5%	1/10W
						R276	1-216-809-11		100	5%	1/10W
R117	1-216-846-11		120K	5%	1/10W	R279	1-216-809-11	METAL CHIP	100	5%	1/10W
R118	1-216-833-11		10K	5%	1/10W	R291	1-216-864-11	METAL CHIP	0	5%	1/10W
R120	1-216-846-11		120K	5%	1/10W	D004	4 040 047 44	METAL OLUB	45014	=0/	4 44 60 84
R122 R123	1-216-845-11 1-216-791-11	METAL CHIP	100K	5%	1/10W	R301	1-216-847-11	METAL CHIP	150K	5%	1/10W
n 123	1-210-791-11	METAL CHIP	3.3	5%	1/10W	R302	1-216-842-11		56K	5%	1/10W
R125	1-216-840-11	METAL CHIP	39K	5%	1/10W	R304 R305	1-216-809-11 1-216-845-11	METAL CHIP METAL CHIP	100 100K	5% 5%	1/10W 1/10W
R126	1-216-840-11	METAL CHIP	39K	5%	1/10W	R308	1-500-283-11		OuH	J /0	1/1000
R131	1-216-843-11	METAL CHIP	68K	5%	1/10W	11000	1-300-200-11	TERMITE	Quii		
R132	1-216-851-11	METAL CHIP	330K	5%	1/10W	R309	1-500-283-11	FERRITE	0uH		
R133	1-216-825-11	METAL CHIP	2.2K	5%	1/10W	R312	1-216-864-11	METAL CHIP	0	5%	1/10W
11100	1 210 020 11	WENTE OTHE	2.21	070	1,1000	R313	1-216-864-11	METAL CHIP	0	5%	1/10W
R151	1-216-833-11	METAL CHIP	10K	5%	1/10W	R314	1-216-864-11	METAL CHIP	0	5%	1/10W
R152	1-216-837-11	METAL CHIP	22K	5%	1/10W	R315	1-216-864-11	METAL CHIP	Õ	5%	1/10W
R155	1-216-840-11	METAL CHIP	39K	5%	1/10W				·	0 / 0	.,
R157	1-216-864-11	METAL CHIP	0	5%	1/10W	R318	1-216-864-11	METAL CHIP	0	5%	1/10W
R158	1-216-821-11	METAL CHIP	1K	5%	1/10W	R320	1-216-864-11	METAL CHIP	ŏ	5%	1/10W
R166	1-216-864-11	METAL CHIP	0	5%	1/10W			< VARIABLE RE	SISTOR >		
R167	1-216-864-11	METAL CHIP	0	5%	1/10W						
R168	1-216-864-11	METAL CHIP	0	5%	1/10W	RV101	1-223-997-21	RES, CARBON A	ADJ VAR 47k		
R169	1-216-864-11	METAL CHIP	0	5%	1/10W						
R199	1 - 216-864-11	METAL CHIP	0	5%	1/10W			< VIBRATOR >			
R201	1-216-839-11	METAL CHIP	33K	5%	1/10W	X201		VIBRATOR, CRY			
R202	1-216-833-11	METAL CHIP	10K	5%	1/10W	******	******	******	*****	*****	*****
R203	1-216 - 845-11	METAL CHIP	100K	5%	1/10W						

CD-EJECT CDR

Ref. No	o. Part No.	Description			Remarks	Ref. No.	Part No.	Description			Remarks
	1-688-101-		VADD					-	0.0045	100/	
	1-000-101-	*********				C142	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
		*****	****			C143	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
			_			C144	1-128-934-91	CERAMIC CHIP	0.33uF	20%	10V
		< CONNECTO)R >			C145	1-128-934-91	CERAMIC CHIP	0.33uF	20%	10V
						C146	1-128-934-91	CERAMIC CHIP	0.33uF	20%	10V
CN1	780 1-750-185-	11 CONNECTOR	, Board to bo	DARD 4P						9	
						C150	1-164-156-11	CERAMIC CHIP	0.1uF		25V
		< RESISTOR	>			C151	1-164-156-11	CERAMIC CHIP	0.1uF		25V
						C154	1-164-156-11	CERAMIC CHIP	0.1uF		25V
R17	01 1-216-813-	11 METAL CHIP	220	5%	1/10W	C155	1-107-826-11		0.1uF	10.00%	
					.,	C157	1-126-390-11	ELECT CHIP	22uF	20.00%	
		< SWITCH >				0.07	1 120 000 11	LLLO1 OIIII	2241	20.0070	0.01
		(OWITOIT)				C158	1-126-390-11	ELECT CHIP	22uF	20.00%	6 21/
S17	01 1_769_975	21 SWITCH, KEY	DOVDD (UDE)	וירו חפב יר	יוחי	C160	1-162-970-11		0.01uF	10%	
		***********				C178	1-162-968-11		0.01ur 0.0047uF		25V
					4-4-4-4-4-4-4					10%	50V
	A 4700 000	A 000000ADD	OOMDI ETE			C179	1-164-156-11	CERAMIC CHIP	0.1uF	000/	25V
	A-4/32-808	3-A CDR BOARD,				C180	1-126-395-11	ELECT	22uF	20%	16V
		*******	******								
						C181	1-127-573-11		1uF	10%	16V
		< CAPACITOR	}>			C182	1-127-573-11	CERAMIC CHIP	1uF	10%	16V
						C183	1-127-573-11	CERAMIC CHIP	1uF	10%	16V
C10	1 1 <i>-</i> 162-964-	11 CERAMIC CH	IP 0.001uF	10%	50V	C184	1-126-395-11	ELECT	22uF	20%	16V
C10	2 1-162-970-	11 CERAMIC CH	IP 0.01uF	10%	25V	C185	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C10	3 1-162-927-	11 CERAMIC CH	IP 100PF	5%	50V						
C10-		11 CERAMIC CH	IP 100PF	5%	50V	C186	1-107-826-11	CERAMIC CHIP	0.1uF	10.00%	16V
C10				5%	50V	C187	1-107-826-11	CERAMIC CHIP	0.1uF	10.00%	
				0 / 0		C188	1-162-970-11		0.01uF	10%	25V
C10	6 1-107-826-	11 CERAMIC CH	IP 0.1uF	10.00%	16V	C189	1-162-970-11		0.01uF	10%	25V
C10				10.00%		C190	1-162-970-11	CERAMIC CHIP	0.01uF		
C10				10.00%		0190	1-102-9/0-11	CENAIVIIC CHIP	0.0146	10%	25V
						0404	1 100 001 11	OCD ANNO OLUB	0.004 E	400/	501
C10				5%	50V	C191	1-162-964-11		0.001uF	10%	50V
C11	0 1-107-826-	11 CERAMIC CH	IP 0.1uF	10.00%	167	C192	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
						C193	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C11			IP 0.1uF	10.00%		C194	1-126-395-11	ELECT	22uF	20%	16V
C112	2 1-162-927-	11 CERAMIC CH	IP 100PF	5%	50V	C200	1-126-390-11	ELECT CHIP	22uF	20.00%	6.3V
C113	3 1-162-927-	11 CERAMIC CH	IP 100PF	5%	50V						
C114	4 1-164-230-	11 CERAMIC CH	IP 220PF	5.00%	50V	C201	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C11	5 1-164-230-	11 CERAMIC CH	IP 220PF	5.00%	50V	C202	1-126-392-11	ELECT CHIP	100uF	20.00%	
	,					C203	1-164-156-11		0.1uF	20.0070	25V
C116	6 1-107-826-	11 CERAMIC CH	IP 0.1uF	10.00%	16V	C204	1-107-826-11	CERAMIC CHIP	0.1uF	10.00%	
C117				10.00%		C205	1-126-391-11	ELECT CHIP	47uF	20.00%	
C118				10.00%		0200	1-120-031-11	LELOT OTHE	47 UI	20.00 /6	0.34
C119				10.00%		conc	4 404 450 44	CERAMIC CHIP	0.45		0514
						C206	1-164-156-11		0.1uF	40.000/	25V
C120	0 1-127-760-	11 CERAMIC CH	IP 4.7uF	10%	6.3V	C207	1-107-826-11	CERAMIC CHIP	0.1uF	10.00%	
0.40						C208	1-107-826-11		0.1uF	10.00%	
C12			100uF	20.00%		C209	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C122				10%	50V	C210	1-126-392-11	ELECT CHIP	100uF	20.00%	6.3V
C123					50V						
C124		11 CERAMIC CH			50V	C212	1-126-390-11		22uF	20.00%	6.3V
C125	5 1-128-934-	91 CERAMIC CH	IP 0.33uF	20%	10V	C213	1-164-156-11	CERAMIC CHIP	0.1uF		25V
						C214	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C126	3 1-162-966 -	11 CERAMIC CHI	IP 0.0022uF	10%	50V	C216	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C128		11 CERAMIC CHI	IP 0.47uF	10.00%	10V	C217	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C129				10%	25V	U	,	02	o. rui		201
C130		11 CERAMIC CHI		1070	25V	C218	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C131		11 CERAMIC CHI			25V	C219		CERAMIC CHIP	0.1uF		25V 25V
010	1-104-130-	II OLIMBIIO OIII	ır Q.Tul		234	C219					
0100	1 104 150	14 CEDAMIC CIT	D 01		0511			CERAMIC CHIP	0.1uF		25V
C132		11 CERAMIC CHI			25V	C221		CERAMIC CHIP	0.1uF		25V
C133		I1 CERAMIC CHI			25V	C222	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C134		I1 CERAMIC CHI			25V						
C135				5%	50V	C223		CERAMIC CHIP	0.033uF	10.00%	
C136	3 1-126-391-	11 ELECT CHIP	47uF	20.00%	6.3V	C224	1-107-826-11	CERAMIC CHIP	0.1uF	10.00%	16V
						C225		CERAMIC CHIP	0.1uF	10.00%	
C137	7 1-107-826-	11 CERAMIC CHI	P 0.1uF	10.00%	16V	C226		CERAMIC CHIP	0.1uF	10.00%	
C138					6.3V	C227		CERAMIC CHIP	9PF	0.50PF	
C139				10.00%		JLLI	1 102 017 11	OELD WIND OTHE	91 1	0.0011	JU V
C140		11 ELECT CHIP	22uF	20.00%		C228	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C141		IT CERAMIC CHI		10.00%							
U-14 I	1-10/-020-	II OLDAWIIO UMI	P 0.1uF	10.00%	100	C230		CERAMIC CHIP	9PF	0.50PF	
					ŀ	C232	1-162-963-11	CERAMIC CHIP	680PF	10%	50V

CDR

Re	ef. No.	Part No.	Description			Remarks	Ref. No.	Part No.	<u>Description</u>			<u>Remarks</u>
	C233	1-164-156-11	CERAMIC CHIP	0.1uF		25V	* CN111	1-764-250-11	PIN, CONNECTO	R (PC BOAR	D) 4P	
	C234	1-165-908-11	CERAMIC CHIP	1uF	10%	10V	CN112	1-784-365-21	CONNECTOR, FF	•	,	
							CN115	1-770-160-21			D) 2P	
	C235	1-165-176-11	CERAMIC CHIP	0.047uF	10.00%	16V	CN121	1-774-731-21		•	,	
	C236	1-164-156-11	CERAMIC CHIP	0.1uF		25V				•		
	C237	1-164-156 - 11	CERAMIC CHIP	0.1uF		25V			< DIODE >			
	C238	1-164-156-11	CERAMIC CHIP	0.1uF		25V						
	C239	1-164-156-11	CERAMIC CHIP	0.1uF		25V	D101	8-719-988-61	DIODE 1SS355	TE-17		
	*						D102	8-719-988-61	DIODE 1SS355	TE-17		
	C240	1-164-156-11	CERAMIC CHIP	0.1uF		25V						
	C241	1-164-156-11	CERAMIC CHIP	0.1uF		25V			< FERRITE BEAD	>		
	C242	1-164-156-11	CERAMIC CHIP	0.1uF		25V					4	
	C244	1-126-390-11	ELECT CHIP	22uF	20.00%	6.3V	FB101	1-469-379-11	FERRITE	0uH		
	C245	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V	FB102	1-469-379-11	FERRITE	0uH		
							FB103	1-469-379-11	FERRITE	0uH		
	C246	1-107-826-11	CERAMIC CHIP	0.1uF	10.00%	16V						
	C247	1-107-826-11	CERAMIC CHIP	0.1uF	10.00%	16V		4	< IC >			
	C248	1-164-156-11	CERAMIC CHIP	0.1uF		25V						
	C249	1-107-826-11	CERAMIC CHIP	0.1uF	10.00%	16V	IC101	6-701-749-01				
	C250	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	IC102	8-759-058-56	IC TC7S02FU(T	E85R)		
							IC103	8-759-337-41	IC NJM2902V-T	E2		
	C251	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	IC104	8-759-096-87	IC TC7WU04FU	(TE12R)		
	C254	1-164-156-11	CERAMIC CHIP	0.1uF		25V	IC110	8-759-594-95	IC L4931ABD33	3-TR		
	C257	1-164-156-11		0.1uF		25V						
	C258	1-164-156-11	CERAMIC CHIP	0.1uF		25V	10150	8-759-673-37	IC SN74HC00A	PWR		
	C259	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	IC171	6-701-746-01	IC BA5937AFP-	E2		
							IC172	8-759-593-08	IC LB11698H-T	E-L		
	C260	1-162-964 - 11	CERAMIC CHIP	0.001uF	10%	50V	IC201	6-701-747-01	IC LC89587-UK	1-E		
	C262	1-164-156 - 11	CERAMIC CHIP	0.1uF		25V	IC202	8-759-597-78	IC MSM54V162	58BSL-40T9	SK	
	C263	1-164-156-11	CERAMIC CHIP	0.1uF		25V						
	C268	1-164-156-11	CERAMIC CHIP	0.1uF		25V	IC204	8-759-058-60	IC TC7SU04FU(TE85R)		
	C269	1-126-392-11	ELECT CHIP	100uF	20.00%	6.3V	IC301	8-759-549-25	IC SN74LVU04A	APWR		
							IC302	8-759-196-96	IC TC7SH08FU-	TE85R		
	C270	1-126-396-11	ELECT CHIP	47uF	20.00%	16V	IC501	6-803-240-01	IC HD6433064E	BA02FV		
	C271	1-126-392-11	ELECT CHIP	100uF	20.00%	6.3V	IC502	6-801-552-01	IC BR93LC46RI	-WE2		
	C272	1-164-156-11	CERAMIC CHIP	0.1uF		25V						
	C273	1-126-391-11	ELECT CHIP	47uF	20.00%	6.3V	IC503		IC TC7SZ08FU(
	C275	1-164-156-11	CERAMIC CHIP	0.1uF		25V	IC504		IC TC7SET08FU			
							IC505	8-759-592-47	IC TC7SZ08FU(
	C289	1-164-156-11	CERAMIC CHIP	0.1uF		25V	IC506	8-759-485-79	IC TC7SET08FU	(TE85R)		
	C301	1-164-156-11	CERAMIC CHIP	0.1uF		25V						
	C302	1-107-826-11	CERAMIC CHIP	0.1uF	10.00%				< COIL >			
	C303		CERAMIC CHIP	0.1uF		25V						
	C304	1-107-826-11	CERAMIC CHIP	0.1uF	10.00%	16V	L101	1-414-398-11	INDUCTOR	10uH		
							L102	1-414-398-11	INDUCTOR	10uH		
	C501	1-126-396-11	ELECT CHIP	47uF	20.00%		L103	1-414-392-41	INDUCTOR	1uH		
	C502	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	L202	1-414-392-41	INDUCTOR	1uH		
	C503	1-164-156-11	CERAMIC CHIP	0.1uF		25V	L203	1-414-392-41	INDUCTOR	1uH		
	C504	1-164-156-11	CERAMIC CHIP	0.1uF		25V						
	C506	1-162-964 - 11	CERAMIC CHIP	0.001uF	10%	50V	L204	1-414-392-41	INDUCTOR	1uH		•
							L205	1-414-392-41	INDUCTOR	1uH		
	C508	1-164-156-11	CERAMIC CHIP	0.1uF		25V	L207	1-414-392-41	INDUCTOR	1uH		
	C509	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	L208	1-414-392-41	INDUCTOR	1uH		
	C513	1 - 164-156-11	CERAMIC CHIP	0.1uF		25V	L301	1-414-392-41	INDUCTOR	1uH		
	C517	1-164-156-11	CERAMIC CHIP	0.1uF		25V						
	C518	1-164-156-11	CERAMIC CHIP	0.1uF		25V	L303	1-414-392-41	INDUCTOR	1uH		
			,				L501	1-414-392-41	INDUCTOR	1uH		
	C519		CERAMIC CHIP	0.1uF		25V	L503	1-414-392-41	INDUCTOR	1uH		
	C520	1-164-156-11	CERAMIC CHIP	0.1 u F		25V						
	C521	1-164-156-11	CERAMIC CHIP	0.1uF		25V			< RESISTOR >			
	C526	1-164-156-11	CERAMIC CHIP	0.1uF		25V						
							R101	1-216-809-11	METAL CHIP	100	5%	1/10W
			< CONNECTOR >				R102	1-216-809-11	METAL CHIP	100	5%	1/10W
	5.2.						R103	1-216-809-11	METAL CHIP	100	5%	1/10W
	CN101	1-784-894-11	CONNECTOR, FFC				R104	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
	CN102	1-816-220-21	CONNECTOR, FFC				R106	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
	CN103	1-816-220-21	CONNECTOR, FFC								=	
	CN104	1-770-160-21	PIN, CONNECTOR	`	J) 2P		R107	1-216-857-11	METAL CHIP	1M	5%	1/10W
	CN110	1-784-370-21	CONNECTOR, FFC	/rrc 11P			R108	1-216-809-11	METAL CHIP	100	5%	1/10W

CDR

Ref. No.	Part No.	<u>Description</u>			<u>Remarks</u>	Ref. No.	Part No.	<u>Description</u>			<u>Remarks</u>
R109	1-216-809-11	METAL CHIP	100	5%	1/10W	R211	1-216-801-11	METAL CHIP	22	5%	1/10W
R110	1-216-809-11	METAL CHIP	100	5%	1/10W	R213	1-216-817-11	METAL CHIP	470	5%	1/10W
R111	1-218-883-11	METAL CHIP	33K	0.5%	1/10W	R215	1-216-864-11	METAL CHIP	0	5%	1/10W
11111	1 210 000 11	WEIZEOIII	OOK	0.070	171000	R216	1-218-875-11		15K	0.5%	1/10W
R112	1-218-879-11	METAL CHIP	22K	0.5%	1/10W	R217	1-216-864-11		0	5%	1/10W
R113	1-218-855-11	METAL CHIP	2.2K		1/10W	nZ17	1-210-004-11	WE IAL UNIF	U	376	1/ LOAA
				0.5%		D040	1 010 001 11	METAL OLUD	00	F0/	4 (4 0) 8 (
R114	1-218-847-11	METAL CHIP	1K	0.5%	1/10W	R218	1-216-801-11	METAL CHIP	- 22	5%	1/10W
R116	1-218-847-11	METAL CHIP	1K	0.5%	1/10W	R219	1-216-801-11	METAL CHIP	22	5%	1/10W
R120	1-216-809-11	METAL CHIP	100	5%	1/10W	R220	1-216-801-11	METAL CHIP	22	5%	1/10W
						R221	1-216-801-11	METAL CHIP	22	5%	1/10W
R121	1-216-809 - 11	METAL CHIP	100	5%	1/10W	R222	1-216-801-11	METAL CHIP	22	5%	1/10W
R122	1 - 216-857-11	METAL CHIP	1M	5%	1/10W						
R123	1-216-864-11	METAL CHIP	0	5%	1/10W	R223	1-216-801-11	METAL CHIP	22	5%	1/10W
R124	1-216-825-11	METAL CHIP	2.2K	5%	1/10W	R224	1-216-801-11	METAL CHIP	22	5%	1/10W
R125	1-216-797-11	METAL CHIP	10	5%	1/10W	R225	1-216-833-11	METAL CHIP	10K	5%	1/10W
						R226	1-216-864-11	METAL CHIP	0	5%	1/10W
R126	1-216-864-11	METAL CHIP	0	5%	1/10W	R228	1-216-833-11	METAL CHIP	10K	5%	1/10W
R127	1-218-883-11	METAL CHIP	33K	0.5%	1/10W					• / •	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
R128	1-218-879-11	METAL CHIP	22K	0.5%	1/10W	R229	1-216-864-11	METAL CHIP	0	5%	1/10W
R133	1-216-864-11	METAL CHIP	0	5%	1/10W	R230	1-216-817-11	METAL CHIP	470	5%	1/10W
R134	1-218-871-11	METAL CHIP	10K	0.5%	1/10W	R231	1-216-809-11	METAL CHIP	100	5%	1/10W
דטווו	1 210 071 11	WIL IAL OTH	1010	0.570	1/1044	R232	1-216-864-11	METAL CHIP			
D105	1 010 000 11	MACTAL CLUD	4 7717	0.50/	4 /4 0 4 4				0	5%	1/10W
R135	1-218-863-11	METAL CHIP	4.7K	0.5%	1/10W	R241	1-216-809-11	METAL CHIP	100	5%	1/10W
R136	1-218-871-11	METAL CHIP	10K	0.5%	1/10W	2010	4 040 00= 44				
R137	1-218-867-11	METAL CHIP	6.8K	0.5%	1/10W	R242	1-218-867-11	METAL CHIP	6.8K	0.5%	1/10W
R139	1-216-833-11	METAL CHIP	10K	5%	1/10W	R243	1-218-867-11	METAL CHIP	6.8K	0.5%	1/10W
R140	1-216-833-11	METAL CHIP	10K	5%	1/10W	R244	1-216-864-11	METAL CHIP	0	5%	1/10W
						R245	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R141	1-216-833-11	METAL CHIP	10K	5%	1/10W	R246	1-216-833-11	METAL CHIP	10K	5%	1/10 W
R142	1-216-833-11	METAL CHIP	10K	5%	1/10W						
R153	1-216-809-11	METAL CHIP	100	5%	1/10W	R248	1-218-831-11	METAL CHIP	220	0.5%	1/10W
R154	1-216-809-11	METAL CHIP	100	5%	1/10W	R250	1-218-871-11	METAL CHIP	10 K	0.5%	1/10W
R155	1-216-809-11	METAL CHIP	100	5%	1/10W	R251	1-218-879-11	METAL CHIP	22K	0.5%	1/10W
						R253	1-216-864-11	METAL CHIP	0	5%	1/10W
R156	1-216-809-11	METAL CHIP	100	5%	1/10W	R254	1-216-857-11	METAL CHIP	1M-	5%	1/10W
R157	1-216-797-11	METAL CHIP	10	5%	1/10W			W.E. 17 IE 07 III		070	,, , , , , ,
R158	1-216-845-11	METAL CHIP	100K	5%	1/10W	R258	1-216-833-11	METAL CHIP	10K	5%	1/10W
R159	1-216-821-11	METAL CHIP	1K	5%	1/10W	R260	1-216-833-11	METAL CHIP	10K	5%	1/10W
R160	1-216-837-11	METAL CHIP	22K	5%	1/10W	R262	1-218-871-11	METAL CHIP	10K		1/10W
1,100	1-210-031-11	WE FAL OTHE	221	J 70	1/1044					0.5%	
D470	1 010 707 11	METAL CLUD	10	F0/	4/4014/	R263	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R170	1-216-797-11	METAL CHIP	10	5%	1/10W	R264	1-216-797-11	METAL CHIP	10	5%	1/10W
R171	1-216-797-11	METAL CHIP	10	5%	1/10W						
R172	1-216-797-11	METAL CHIP	10	5%	1/10W	R265	1-218-833-11	METAL CHIP	270	0.5%	1/10W
R173	1-218-831-11	METAL CHIP	220	0.5%	1/10W	R267	1-218-883-11	METAL CHIP	33K	0.5%	1/10W
R186	1 - 216-845-11	METAL CHIP	100K	5%	1/10W	R268	1-218-864-11	METAL CHIP	5.1K	0.5%	1/10W
						R269	1-216-817-11	METAL CHIP	470	5%	1/10W
R187	1-216-833-11	METAL CHIP	10K	5%	1/10W	R270	1-218-847-11	METAL CHIP	1K	0.5%	1/10W
R188	1 - 216-864-11	METAL CHIP	0	5%	1/10W						
R189	1-216-829-11	METAL CHIP	4.7K	5%	1/10W	R271	1-218-865-11	METAL CHIP	5.6K	0.5%	1/10W
R190	1-216-829-11	METAL CHIP	4.7K	5%	1/10W	R274	1-216-833-11	METAL CHIP	10K	5%	1/10W
R192	1-216-864-11	METAL CHIP	0	5%	1/10W	R276	1-218-843-11	METAL CHIP	680	0.5%	1/10W
						R277	1-218-865-11	METAL CHIP	5.6K	0.5%	1/10W
R193	1-220-810-11	RES-CHIP	0.39	1%	1/2W	R278	1-218-285-11	METAL CHIP	75	5%	1/10W
R194	1-216-864-11	METAL CHIP	0.00	5%	1/10W	11270	1 210 200 11	WILIAL OTT	7.5	J /0	171000
R196	1-216-864-11	METAL CHIP	0	5%	1/10W	R281	1-218-847-11	METAL CHIP	1K	0.50/	1/10W
R198	1-216-864-11	METAL CHIP		5%	1/10W	R283	1-216-809-11			0.5%	
			0					METAL CHIP	100	5%	1/10W
R200	1-216-829-11	METAL CHIP	4.7K	5%	1/10W	R290	1-216-833-11	METAL CHIP	10K	5%	1/10W
	4 040 004 44	MATTAL OLUB	••			R291		METAL CHIP	150	5%	1/10W
R201	1-216-801-11	METAL CHIP	22	5%	1/10W	R300	1-216-833-11	METAL CHIP	10K	5%	1/10W
R202	1-216-817-11	METAL CHIP	470	5%	1/10W						
R203	1-216-801-11	METAL CHIP	22	5%	1/10W	R301	1-216-845-11	METAL CHIP	100K	5%	1/10W
R204	1-216-801-11	METAL CHIP	22	5%	1/10W	R302	1-216-845-11	METAL CHIP	100K	5%	1/10W
R205	1-216-801-11	METAL CHIP	22	5%	1/10W	R303	1-216-833-11	METAL CHIP	10K	5%	1/10W
						R304	1-216-833-11	METAL CHIP	10K	5%	1/10W
R206	1-216-864-11	METAL CHIP	0	5%	1/10W	R305	1-216-864-11	METAL CHIP	0	5%	1/10W
R207	1-216-813-11	METAL CHIP	220	5%	1/10W						
R208	1-216-864-11	METAL CHIP	0	5%	1/10W	R307	1-216-864-11	METAL CHIP	0	5%	1/10W
R209	1-216-801-11	METAL CHIP	22	5%	1/10W	R320	1-216-864-11	METAL CHIP	Ö	5%	1/10W
R210	1-216-864-11	METAL CHIP	0	5%	1/10W	R321		METAL CHIP	0	5%	1/10W
		_ · · · _ - · · · ·							-		.,

CDR DISP

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Ref. No	o. Part No.	Description			<u>Remarks</u>	Ref. No.	Part No.	<u>Description</u>			Remarks	3
R32	2 1-216-864-11	METAL CHIP	0	5%	1/10W	RB508	1-233-810-21	RES, NETWORK	100K (3216	6)		
R32	3 1-216-864-11	METAL CHIP	0	5%	1/10W							
D00		AAFTAL OLUB	•	=0/	4 /4 0141	RB509	1-233-810-21					
R32			0	5%	1/10W	RB510	1-233-810-21	RES, NETWORK				
R32		METAL CHIP	. 0	5%	1/10W	RB511	1-233-810-21					
R35		METAL CHIP	1K	5%	1/10 W	RB512	1-233-810-21	RES, NETWORK	.100K (3216	6)		
R35			1K	5%	1/10 W	RB514	1-233-810-21	RES, NETWORK	100K (3216	6)		
R35	3 1-216-833-11	METAL CHIP	10K	5%	1/10 W							
						RB515	1-233-810-21	RES, NETWORK	100K (3216	6)		
R35	4 1-216-833-11	METAL CHIP	10K	5%	1/10W	RB516	1-233-810-21	RES, NETWORK				
R35			2.2	5%	1/10W	RB517	1-233-810-21	RES, NETWORK				
R36			2.2	5%	1/10W	RB518	1-233-810-21	RES, NETWORK		,		
R37		METAL CHIP	2.2	5%	1/10W	RB519	1-233-810-21		•	,		
R50			100	5%	1/10W	INDUIS	1-200-010-21	nlo, NLIWONK	100K (32 IC	")		
1100	2 1-210-005-11	WIETAL OTHE	100	J 70	1/1000	RB520	1-233-810-21	DEC METMODIZ	1008 /2016	2)		
DEO	0 1 016 000 11	METAL CLUB	100	E0/	4 /4 0141			RES, NETWORK				
R50			100	5%	1/10W	RB521	1-233-810-21			,		
R50			0	5%	1/10W	RB522	1-233-810-21	RES, NETWORK	100K (3216	i)		
R50			47K	5%	1/10W							
R50			0	5%	1/10W			< SWITCH >				
R50	7 1-216-864-11	METAL CHIP	0	5%	1/10W							
						S170	1-786-288-11	,				
R50			0	5%	1/10W	S171	1-786-288-11	SWITCH, DETEC	TION (LOAD	OUT)		
R50	9 1-216-833-11	METAL CHIP	10K	5%	1/10W	1						
R51	1 1-216-864-11	METAL CHIP	0	5%	1/10W			< VIBRATOR >				
R51	3 1-216-864-11	METAL CHIP	0	5%	1/10W							
R51		METAL CHIP	0	5%	1/10W	X201	1-795-519-11	VIBRATOR, CRY	STAL (33.86	(SHM88		
						X501		VIBRATOR, CER				
R51	9 1-216-864-11	METAL CHIP	0	5%	1/10W			******			*****	
R52			100K	5%	1/10W							
R52		METAL CHIP	100K	5%	1/10W		A-4732-846-A	DISP BOARD, CO	OMDLETE			
R52			100K	5%	1/10W	İ	A-4702-040-A	*********				
R52			100K	5%	1/10W							
noz	3 1-210-040-11	METAL UTIL	TOOK	370	1/1000		4 040 005 44	CHCHION (EL)				
DEO	0 4 040 004 44	METAL CLUD	0	E0/	4 /4 0144		4-949-935-41					
R52			0	5%	1/10W	*	4-996-686-03	HOLDER (FL)				
R52		METAL CHIP	, 0	5%	1/10W							
R52			0	5%	1/10W			< CAPACITOR >				
R52			2.2K	5%	1/10W	İ						
R53	0 1-216-864-11	METAL CHIP	0	5%	1/10 W	C742	1-124-584 - 00		100uF	20%	10V	
						C743	1-164-159-11	CERAMIC	0.1uF		50V	
R53	2 1-216-864-11	METAL CHIP	0	5%	1/10W	C751	1-124-261-00	ELECT	10uF	20%	50V	
R53	3 1-216-864-11	METAL CHIP	0	5%	1/10W	C753	1-124-261-00	ELECT	10uF	20%	50V	
R53		METAL CHIP	4.7K	5%	1/10W	C760	1-124-261-00		10uF	20%	50V	
R53	5 1-216-864-11	METAL CHIP	0	5%	1/10W							
R53	6 1-216-864-11	METAL CHIP	0 ;	5%	1/10W	C761	1-162-294-31	CERAMIC	0.001 uF	10%	50V	
			•		.,	C762	1-162-294-31		0.001uF	10%	50V	
R53	7 1-216-864-11	METAL CHIP	0	5%	1/10W	C763	1-164-159-11		0.1uF	1070	50V	
R53			0	5%	1/10W	C764	1-124-261-00		10uF	20%	50V	
R53			0	5%	1/10W	C765				2076		
						6765	1-164-159-11	GENAIVIIG	0.1uF		50V	
R54		METAL CHIP	10K	5%	1/10W	0700	4 400 045 04	OFDANNO	4705	=0/	=01.6	
R54	2 1-216-833-11	METAL CHIP	10K	5%	1/10W	C766	1-162-215-31		47PF	5%	50V	
						C767	1-164-159-11		0.1uF		50V	
R54		METAL CHIP	10K	5%	1/10W	C768	1-162-294-31		0.001uF	10%	50V	
R54		METAL CHIP	220	5%	1/10W	C769	1-162-294-31		0.001uF	10%	50V	
R54	5 1-216-801-11	METAL CHIP	22	5%	1/10W	C770	1-162-294-31	CERAMIC	0.001uF	10%	50V	
R54	6 1-216-864-11	METAL CHIP	0	5%	1/10W							
R54	7 1-216-864-11	METAL CHIP	0	5%	1/10W	C780	1-164-159-11	CERAMIC	0.1uF		50V	
R54	8 1-216-813-11	METAL CHIP	220	5%	1/10W			< CONNECTOR >				
R54		METAL CHIP	0	5%	1/10W	-						
R55		METAL CHIP	0	5%	1/10W	CN700	1-779-558-21	CONNECTOR,FFC	: (LIE (NON-	7 F\\ 91	D	
R55		METAL CHIP	100K	5%	1/10W	CN710	1-750-194-11	•	, ,	,,		
R55		METAL CHIP	100K	5%	1/10W	JIN 10	1 100-134-11	JUNINEUTUR, DU	יאט די ימוואיי	AND 4F		
noo	0 1-210-040-11	WIETAL OTHE	TOUR	376	1/1044			· DIODE ·				
		COMPOSITION	ALCIDOUST F	N OOK				< DIODE >				
		< COMPOSITIO	v oincoll b	PLUCK >		D フファ	0 740 040 00	DIODE OF FOOT	TDIE (OC	5 \		
DDC	1 1 100 040 04	DEC METAGES	1000 /004			D775	8-719-046-39	DIODE SEL5821	4-1115 (SB)	VI)		
RB2		RES, NETWORK						LEAD				
RB5		RES, NETWORK						< LEAD >				
RB5		RES, NETWORK										
RB5	06 1-233-810-21	RES, NETWORK	. 100K (321)	0)	l	EP780	1-690-880-51	LEAD (WITH COM	VINECTOR)			

DISP	LOAD	ING MAIN
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Ref. No.	Part No.	<u>Description</u> < FILTER >			Remai	<u>ks</u>	Ref. No. S714	Part No. 1-762-875-21	Description SWITCH, KEYBO	OARD (TIME	(RCD))	<u>Remarks</u>
FL750	1-518-898-11	INDICATOR TUBE		SCENT			S715 S716 S717 S718	1-762-875-21 1-477-995-11 1-762-875-21	SWITCH, KEYBO SWITCH, KEYBO ENCODER, ROTA SWITCH, KEYBO	DARD (YES) ARY (AMS (DARD (MEN	rcd)) J/NO)	
IC760 IC781	8-759-680-17 8-759-826-33	IC MSM9201-04 IC NJL73H400A < TRANSISTOR >					S719 S720 S721	1-762-875-21	SWITCH, KEYBO SWITCH, KEYBO SWITCH, KEYBO)ard (open	I/CLOSE(I	RCD))
Q761 Q762 Q775	8-729-620-05 8-729-620-05 8-729-900-80	TRANSISTOR TRANSISTOR TRANSISTOR	2SC2603 2SC2603 UN4211-	TP-EF			S722 S723 S724 ******	1-477-995-11 1-762-875-21	SWITCH, KEYBO ENCODER, ROTA SWITCH, KEYBO ************************************	ARY (AMS (DARD (ALBU	CĎ)) IM)	****
		< RESISTOR >						1-683-868-21	HP BOARD			
R700 R701 R702 R703	1-249-409-11 1-249-411-11 1-249-413-11 1-249-415-11		220 330 470 680	5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W		C791	1-162-290-31	< CAPACITOR >	470PF	10%	50V
R704	1-249-417-11		1K	5%	1/4W		C796	1-162-290-31		470PF	10%	50V
R711 R712 R713	1-249-409-11 1-249-411-11 1-249-413-11	CARBON CARBON CARBON	220 330 470	5% 5% 5%	1/4W 1/4W 1/4W		J790	1-770-306-11	< JACK > JACK (LARGE T)	VDE\/ÐHONI	= <i>G)</i>	
R714 R715	1-249-415-11 1-249-417-11		680 1K	5% 5%	1/4W 1/4W	F	0700	7 770 000 11	< FILTER/CAPAC	,,	-0)	
R716 R717 R718	1-249-419-11 1-249-421-11 1-249-425-11	CARBON CARBON CARBON	1.5K 2.2K 4.7K	5% 5% 5%	1/4W 1/4W 1/4W	F	JW791 JW792 L790		FILTER, NOISE FILTER, NOISE CERAMIC	0.1uF		50V
R719 R721	1-249-429-11 1-249-409-11	CARBON CARBON	10K 220	5% 5%	1/4W 1/4W	F	·		< RESISTOR >			
R722 R723 R724 R741	1-249-411-11 1-249-413-11 1-249-415-11 1-247-807-31	CARBON CARBON CARBON CARBON	330 470 680 100	5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W		R791 R796	1-249-393-11 1-249-393-11	CARBON CARBON < VARIABLE RES	10 10 SISTOR >	5% 5%	1/4W F 1/4W F
R742	1-249-401-11		47	5%	1/4W	F	RV790		RES, VAR, CARB	ON 20K/20I		
R761 R762 R763	1-247-807-31 1-247-807-31 1-249-441-11	CARBON CARBON CARBON	100 100 100K	5% 5% 5%	1/4W 1/4W 1/4W		******	1-645-721-11	**************************************		*****	******
R764 R766	1-249-441-11 1-247-843-11		100K 100K 3.3K	5% 5%	1/4W 1/4W			1-040-721-11	********			
R767	1-247-807-31		100	5%	1/4W			<i>/</i>	< CONNECTOR >			
R768 R769 R770	1-247-807-31 1-247-807-31 1-247-807-31		100 100 100	5% 5% 5%	1/4W 1/4W 1/4W		* CN151	1-568-943-11	PIN, CONNECTO < SWITCH >	R 5P		
R775	1-247-807-31	CARBON	100	5%	1/4W		S271	1-572-086-11	SWITCH, LEAF (I	LOADING O	JT)	
		< VARIABLE RESI					S272 ******	1-572-086-11	SWITCH, LEAF (I	LOADING IN)	*****
RV780	1-223-673-11	RES, VAR, CARBO	ON 10K (RE	EC LEVEL)				A-4732-843-A	MAIN BOARD, CO			
S700 S701 S702 S703	1-762-875-21 1-762-875-21 1-762-875-21 1-762-875-21		ARD (FINAL ARD <u>(</u> INPU	JŹE) Γ)			*	3-923-762-11 7-685-646-79	HOLDER (TR) SCREW +BVTP 3 < CAPACITOR >	X8 TYPE2 I	Г-3	
\$704 \$710 \$711 \$712 \$713	1-762-875-21 1-762-875-21 1-762-875-21 1-762-875-21	SWITCH, KEYBOA	ARD (REC) ARD (▷ (I ARD (■ (RI ARD (■ (RI	RGD)) CD)) CD))	CD))		C12 C16 C62 C79 C91	1-162-971-11	CERAMIC CHIP CERAMIC CHIP CERAMIC CHIP CERAMIC CHIP CERAMIC CHIP	0.1uF 0.1uF 0.1uF 0.001uF 0.1uF	10.00%	25V 25V 25V 50V 25V

MAIN

Ref	. No.	Part No.	Description			Remarks	Ref. No.	Part No.	<u>Description</u>			Remarks
(098	1-164-156-11	CERAMIC CHIP	0.1uF		25V	C476	1-164-156-11	CERAMIC CHIP	0.1uF		25V
	C99	1-104-665-11		100uF	20.00%		C480	1-164-156-11		0.1uF		25V
	0100		CERAMIC CHIP	0.1uF	20,0070	25V	0.00	1 101 100 11	CETTI IIII OTTI	0.141		201
	C111	1-136-356-11		470PF	5.00%		C481	1-162-974-11	CERAMIC CHIP	0.01uF		50V
	0112	1-128-551-11		22uF	20.00%		C500		CERAMIC CHIP	0.01uF		25V
,	J112	1-120-001-11	LLLUI	ZZUI	20.00 /0	234	C503					
,	2112	1 100 551 11	FLECT	00	00.000/	OEV	1		CERAMIC CHIP	0.1uF		25V
	0113	1-128-551-11		22uF	20.00%		C504	1-164-156-11		0.1uF		25V
	C118	1-128-551-11		22uF	20.00%		C505	1-164-156-11	CERAMIC CHIP	0.1uF		25V
	2170	1-128-551-11		22uF	20.00%							
	0173	1-128-551-11		22uF	20.00%		C517	1-104-665-11		100uF	20.00%	
(C174	1-136-356-11	MYLAR	470PF	5.00%	50V	C518	1-164-156-11	CERAMIC CHIP	0.1uF		25V
							C519	1-104-665-11	ELECT	100uF	20.00%	10V
(C211	1-136-356-11	MYLAR	470PF	5.00%	50V	C520	1-164-156-11	CERAMIC CHIP	0.1uF		25V
(C212	1-128-551-11	ELECT	22uF	20.00%	25V	C530	1-104-665-11		100uF	20.00%	
	2213	1-128-551-11		22uF	20.00%							
	2218	1-128-551-11		22uF	20.00%		C531	1-164-156-11	CERAMIC CHIP	0.1uF		25V
	2270	1-128-551-11		22uF	20.00%		C534	1-164-156-11		0.1uF		25V
,	3210	1 120 001 11	LLLU	ZZUI	20.0070	201	C535	1-104-665-11		100uF	20.00%	
,	273	1-128-551-11	ELECT	22uF	20.00%	25//	C536		CERAMIC CHIP		20.00%	
							1			0.1uF	00 000/	25V
	3274	1-136-356-11	MYLAR	470PF	5.00%		C539	1-104-665-11	ELEUI	100uF	20.00%	IUV
	C310	1-164-156-11	CERAMIC CHIP	0.1uF	00 000	25V			0PD 44410 T			a=1:
	2311	1-126-933-11	ELECT	100uF	20.00%		C541	1-164-156-11		0.1uF		25V
(C312	1-164-156-11	CERAMIC CHIP	0.1uF		25V	C550	1-164-156-11		0.1uF		25V
							C555	1-164-156-11	CERAMIC CHIP	0.1uF		25 V
(2316	1-126-933-11	ELECT	100uF	20.00%	16V	C600	1-126-963-11	ELECT	4.7uF	20.00%	50V
(317	1-164-156-11	CERAMIC CHIP	0.1uF		25V	C611	1-164-156-11	CERAMIC CHIP	0.1uF		25V
	361	1-126-933-11	ELECT	100uF	20.00%		1					
	362	1-164-156-11	CERAMIC CHIP	0.1uF		25V	C613	1-216-864-11	METAL CHIP	0	5%	1/10W
	366	1-126-933-11		100uF	20.00%		C621		CERAMIC CHIP	0.1uF	0 70	25V
`	3000	1 120 300 11	LLLOI	10001	20.0070	100	C630	1-216-864-11			5%	
,	2007	1 104 150 11	CEDAMIC CITID	0.4		0514				0	076	1/10W
	2367	1-164-156-11	CERAMIC CHIP	0.1uF		25V	C631		CERAMIC CHIP	0.1uF	00 000/	25V
	391		CERAMIC CHIP	0.1uF		25V	C650	1-104-665-11	ELECT	100uF	20.00%	107
	2396		CERAMIC CHIP	0.1uF		25V						
	C401	1-126-767-11		1000uF	20.00%		C651	1-164-156-11		0.1uF		25V
(2403	1-126-767-11	ELECT	1000uF	20.00%	16V	C661	1-164-156-11	CERAMIC CHIP	0.1uF		25V
							C664	1-164-156-11	CERAMIC CHIP	0.1uF		25V
(2406	1-126-935-11	ELECT	470uF	20.00%	16V	C802	1-162-974-11	CERAMIC CHIP	0.01uF		50V
	C411	1-126-939-11		10000uF	20.00%		C805	1-104-665-11		100uF	20.00%	
	C412		CERAMIC CHIP	0.1uF		25V					20.0070	
	2413		CERAMIC CHIP	0.1uF		25V	 ∆ C900	1-113-920-11	CERAMIC	0.0022uF	20.00%	250V
	C414	1-126-926-11		1000uF	20.00%		∆ C901	1-113-920-11	CERAMIC	0.0022uF		
,	7414	1-120-920-11	ELECT	TOOQUE	20.00%	IUV	217 (201	1-113-920-11	CENAIVIIC	U.UUZZUF	20.00%	2007
,	104	4 400 000 44	C! COT	40000	00.000	4014			CONNECTOR			
	C421	1-126-939-11		10000uF	20.00%				< CONNECTOR >			
	2422		CERAMIC CHIP			25V						
	C423		CERAMIC CHIP	0.1uF		25V	CN1	1-784-367-11				
	3424	1-126-926-11	ELECT	1000uF	20.00%		CN630	1-784-370-21				
(C426	1-164-156 - 11	CERAMIC CHIP	0.1uF		25V	CN660	1-784-382-21	CONNECTOR, FFO	C/FPC 25P		
							CN661		CONNECTOR, FFO			
(2427	1-164-156-11	CERAMIC CHIP	0.1uF		25V	CN671	1-778-692-11				
	2428	1-126-935-11		470uF	20.00%							
	2431		ELECT	4700uF	20.00%		* CN680	1-568-954-11	PIN, CONNECTOR	3 5 P		
	3432	1-120-340-11	CERAMIC CHIP	4700ar 0.1uF	20.00 /0	25V	CN690	1-506-954-11	PIN, CONNECTOR			
. (2433	1-164-156-11	CERAMIC CHIP	0.1uF		25V	CN900	1-204-321-00	PIN, CONNECTOR	121		
		1 100 000 1:	FLEOT	1000 -	00.000	4014						
	2434	1-126-926-11	ELECT	1000uF	20.00%				< DIODE >			
	2442	1-164-156-11	CERAMIC CHIP	0.1uF		25V						
	2443	1-164-156-11	CERAMIC CHIP	0.1uF		25V	D181	8-719-820-05	DIODE 1SS181-	TE85L		
C	3444	1-126-926-11	ELECT	1000uF	20.00%	10V	D310	8-719-988-61				
	451	1-128-548-11	ELECT	4700uF	20.00%	25V	D311		DIODE 1SS184-			
			2				D316		DIODE 1SS181-			
r	452	1-164-156-11	CERAMIC CHIP	0.1uF		25V	D400		DIODE MA8033-			
	453	1-164-156-11	CERAMIC CHIP	0.1uF		25V	D 100	0 7 10 721 10	PIODE MINOUOD.	L 1/		
	7453 7454		ELECT	0.1ur 1000uF	20.00%		D404	6-500 500 04	DIODE 10EDD40	TDO		
							D401	6-500-522-21	DIODE 10EDB40			
	460	1-128-576-11		100uF	20.00%		D402	6-500-522-21	DIODE 10EDB40			
Ü	463	1-165-319-11	CERAMIC CHIP	0.1uF		50V	D403	6-500-522-21	DIODE 10EDB40			
							D404	6-500-522-21	DIODE 10EDB40			
	465	1-126-967-11		47uF	20.00%		D406	6-500-522-21	DIODE 10EDB40	-TB3		
	471		ELECT	10uF	20.00%							
C	472	1-126-967-11	ELECT	47uF	20.00%	50V			The comme	nto ido-4ifi	d bu	·k A 2"
									The compone	nis identifie	a by mai	K ∠L\ Ol'

MAIN

Ref. No.	Part No.	Description		Remarks	Ref. No.	Part No.	Description			Remarks
D407	6-500-522-21	DIODE 10EDB40-TB3			L662	1-216-295-91		0		
D411	6-500-522-21	DIODE 10EDB40-TB3			L665	1-216-295-91		Ö		
D412	6-500-522-21									
D421 D422	6-500-522-21						< LINE FILTER >			
U4ZZ	6-500-522-21	DIODE 10EDB40-TB3	*		∆LF900	1-419-625-11	COIL, LINE FILTE	R		
D431	6-500-522-21	DIODE 10EDB40-TB3			22.000	1 110 020 11	OOIE, EINE FIELE			
D432		DIODE 10EDB40-TB3					< TRANSISTOR >	>		
D433 D434	6-500-522-21 6-500-522-21				Q181	9_720_0 <i>46</i> _07	TRANSISTOR 2S	D1020 /E\	T /TV\ C	'n
D454		DIODE 10EDB40-TB3			Q191		TRANSISTOR UN		-I (IA). S	OU .
		•			Q281	8-729-046-97	TRANSISTOR 2S	D1938 (F)	-T (TX). S	0
D452	6-500-522-21				Q291		TRANSISTOR UN			
D453 D454	6-500-522-21 6-500-522-21				Q310	8-729-922-37	TRANSISTOR 2S	D21445-11	-UVW	
D461		DIODE 10EDB40-TB3			Q380	8-729-015-74	TRANSISTOR UN	15111-TX		
D462	8-719-422-64	DIODE MA8062-M-TX								
D471	8-719-988-61	DIODE 1SS355TE-17					< RESISTOR >			
D471	8-719-988-61				R4	1-216-809-11	METAL CHIP	100	5%	1/10W
D473	8-719-988-61	DIODE 1SS355TE-17			R5	1-216-833-11		10K	5%	1/10W
D805	8-719-421-82	DIODE MA8043-M(TX)			R9	1-216-829-11		4.7K	5%	1/10W
		.10.		-	R10	1-216-833-11		10K	5%	1/10W
		< IC >			R17	1-216-845-11	METAL CHIP	100K	5%	1/10W
IC1	6-803-241-01	IC M30624MWP-068FP			R18	1-216-833-11		10K	5%	1/10W
IC100		IC BR24C02FV-WE2			R20	1-216-833-11		10K	5%	1/10W
IC310					R24	1-216-826-11		2.7K	5%	1/10W
IC370 IC390	8-759-278-58 8-759-697-21	IC NJM4558V-TE2 IC NJM4565V(TE2)			R26 R28	1-216-847-11 1-216-843-11		150K 68K	5% 5%	1/10W 1/10W
10000	0 100 007 21	10 HOW 1000 V(TEE)			1120	1 210 040 11	MEIALOIII	OUN	J 70	1/1044
IC410	8-759-039-69				R29	1-216-833-11		10K	5%	1/10W
IC420	8-759-039-69				R30	1-216-833-11		10K	5%	1/10W
IC426 IC430	8-759-445-59 8-759-231-55	IC BA033T IC TA7808S			R32 R34	1-216-833-11 1-216-833-11		10K 10K	5% 5%	1/10W 1/10W
1C440	8-759-071-48				R41	1-216-864-11		0	5%	1/10W
10450	8-759-231-55				R42	1-216-833-11		10K	5%	1/10W
IC460 IC476	8-759-633-42 8-759-387-77	IC M5293L IC TC7WU04F-TE12L			R43 R46	1-216-833-11 1-216-864-11		10K 0	5% 5%	1/10W 1/10W
IC480	6-702-913-01	IC S-80929CNMC-G8ZT2G			R48	1-216-833-11		10K	5%	1/10W
IC500	6-701-843-01	IC AK4584VQ			R50	1-216-833-11		10K	5%	1/10W
10040	0 000 010 01	IO TODICATOL (ODTIOAL IN)			D=0	1 010 000 11	AASTAL OLUB	4014		
IC610 IC620	6-600-013-01	IC TORX179L (OPTICAL IN) IC TOTX179L (OPTICAL OUT)			R59 R60	1-216-833-11 1-216-833-11	METAL CHIP	10K 10K	5% 5%	1/10W 1/10W
IC650	8-759-548-95	IC SN74LV00APWR			R67	1-216-833-11	METAL CHIP	10K	5%	1/10W
IC800	8-759-633-65	IC M54641L			R76	1-216-845-11	METAL CHIP	100K	5%	1/10W
		14.017			R77	1-216-833-11	METAL CHIP	10K	5%	1/10W
		< JACK >			R78	1-216-833-11	METAL CHIP	10K	5%	1/10W
J310	1-784-429-11	JACK, PIN 4P (ANALOG IN,OUT)			R80	1-216-833-11	METAL CHIP	10K	5%	1/10W
					R81	1-216-845-11	METAL CHIP	100K	5%	1/10W
		< COIL >			R85	1-216-833-11	METAL CHIP	10K	5%	1/10W
L390	1-216-295-91	SHORT CHIP 0			R89	1-216-835-11	METAL CHIP	15K	5%	1/10W
L391	1-216-295-91	SHORT CHIP 0			R90	1-216-864-11	METAL CHIP	0	5%	1/10W
L517	1-216-295-91	SHORT CHIP 0			R91	1-216-809-11	METAL CHIP	100	5%	1/10W
L535	1-216-864-11	METAL CHIP 0 5%)	1/10W	R107	1-216-833-11	METAL CHIP	10K	5%	1/10W
L539	1-216-295-91	SHORT CHIP 0			R111 R112	1-216-839-11 1-216-837-11	METAL CHIP	33K 22K	5% 5%	1/10W 1/10W
L600	1-414-267-21	INDUCTOR 10uH			11112	1 = 10-001-i1	WEIDE VIHE	~~I\	J /0	1/1044
L632	1-414-760-21	FERRITE OuH			R113	1-216-849-11	METAL CHIP	220K	5%	1/10W
L636	1-414-760-21	FERRITE Out			R115	1-216-805-11	METAL CHIP	47	5%	1/10W
L650 L652	1-216-295-91 1-414-760-21	SHORT CHIP 0 FERRITE 0uH			R170 R171	1-216-845-11 1-216-864-11	METAL CHIP	100K	5% 5%	1/10W
LUJZ	1-414-100-21	TERRITE UUTI			R171	1-216-864-11	METAL CHIP	0	5% 5%	1/10W 1/10W
L656	1-414-760-21	FERRITE OuH							V / U	.,
L659	1-414-760-21	FERRITE OUH								
L661	1-216-864-11	METAL CHIP 0 5%)	1/10W			The compone			
							dotted line with			

								MAIN	POW	/ER	SW
Ref. No.	Part No.	Description			<u>Remarks</u>	Ref. No.	Part No.	<u>Description</u>			Remarks
R173	1-216-833-11	METAL CHIP	10K	5%	1/10W	R652	1-216-809-11	METAL CHIP	100	5%	1/10W
R174	1-216-833-11	METAL CHIP	10K	5%	1/10W	R653	1-216-845-11		100K	5%	1/10W
R175	1-216-845-11		100K	5%	1/10W						
R176	1-216-817-11	METAL CHIP	470	5%	1/10W	R656	1-216-813-11	METAL CHIP	220	5%	1/10W
R177	1-216-817-11	METAL CHIP	470	5%	1/10W	R658 R659	1-216-845-11 1-216-809-11		100K 100	5% 5%	1/10W 1/10W
R181	1-216-833-11	METAL CHIP	10K	5%	1/10W	R1092	1-216-864-11		0 -	5%	1/10W
R191	1-216-805-11	METAL CHIP	47	5%	1/10W	111002	. 2.0 001 11		·	0 70	,,,,,,,,
R192	1-216-805-11	METAL CHIP	47	5%	1/10W			< COMPOSITIO	N CIRCUIT	BLOCK >	
R193	1-216-864-11	METAL CHIP	0	5%	1/10W						•
R211	1-216-839-11	METAL CHIP	33K	5%	1/10W	RB51	1-236-908-11	RES, CHIP NET			
R212	1-216-837-11	METAL CHIP	22K	5%	1/10W	RB55 RB72	1-236-908-11 1-236-908-11	RES, CHIP NET RES, CHIP NET		٠,	
R213	1-216-849-11	METAL CHIP	220K	5%	1/10W	RB82	1-236-908-11	•			
R215	1-216-805-11	METAL CHIP	47	5%	1/10W	RB86	1-236-908-11				
R270	1-216-845-11	METAL CHIP	100K	5%	1/10W						
R271	1-216-864-11	METAL CHIP	0	5%	1/10W	RB93	1-233-418-11	RES, CHIP NET		(3216)	
D070	1 010 004 11	MACTAL CLUD		E0/	4 /4 0 44	RB509	1-233-576-11	RES, CHIP NET	WORK 100		
R272 R273	1-216-864-11 1-216-833-11	METAL CHIP METAL CHIP	0 10K	5% 5%	1/10W 1/10W			< RELAY >			
R274	1-216-833-11		10K	5%	1/10W			\ IILLAI >			
R275	1-216-845-11	METAL CHIP	100K	5%	1/10W	RY310	1-755-359-11	RELAY			
R276	1-216-817-11	METAL CHIP	470	5%	1/10W						
			4=0	=0/				< VIBRATOR >			
R277	1-216-817-11	METAL CHIP	470 10K	5% 5%	1/10W	X15	1 705 050 01	VIDDATOD CEI	DANNIO (ENNL	J-\	
R281 R291	1-216-833-11 1-216-805-11	METAL CHIP METAL CHIP	47	5%	1/10W 1/10W		1-795-058-21 ******	VIBRATOR, CEF			*****
R292	1-216-805-11	METAL CHIP	47	5%	1/10W						
R293	1-216-864-11	METAL CHIP	0	5%	1/10W		1-683-869-21	POWER BOARD			
								*****	*		
R310	1-216-825-11	METAL CHIP	2.2K	5%	1/10W			CADACITOD			
R311 R380	1-216-841-11 1-216-845-11	METAL CHIP METAL CHIP	47K 100K	5% 5%	1/10W 1/10W			< CAPACITOR >	•		
R381	1-216-847-11	METAL CHIP	150K	5%	1/10W		1-113-920-11	CERAMIC	0.0022u	F 20.00%	% 250V
△ R401	1-219-786-11		22	5%	1/4W						
								< CONNECTOR	>		
△ R403	1-219-786-11		22	5%	1/4W	# 0N000	1 500 000 01	DIN CONSTOT	OD /DO DOA	DD) 0D	
R406 R441	1-216-821-11 1-216-864-11	METAL CHIP	1K 0	5% 5%	1/10W 1/10W	* CN920	1-580-230-31	PIN, CONNECT	OR (PC BOA	KU) 2P	
R461	1-216-837-11		22K	5%	1/10W			< SWITCH >			
R462	1-216-845-11		100K	5%	1/10W						
						 ∆ S921		SWITCH, PUSH			
R463	1-216-813-11		220	5%	1/10W	******	*****	******	******	*****	*****
R464	1-216-813-11	METAL CHIP	220	5%	1/10W		1 600 067 01	CW DOADD			
R470 R471	1-216-809-11 1-216-864-11	METAL CHIP METAL CHIP	100 0	5% 5%	1/10W 1/10W		1-683-867-21	SW BOARD *******			
R472	1-216-822-11		1.2K	5%	1/10W						
								< RESISTOR >			
R473	1-216-815-11	METAL CHIP	330	5%	1/10W			0.00			=
R474	1-216-833-11	METAL CHIP	10K	5%	1/10W	R725	1-249-417-11	CARBON	1K	5%	1/4W F
R475 R476	1-216-843-11 1-216-853-11	METAL CHIP METAL CHIP	68K 470K	5% 5%	1/10W 1/10W	R726 R727	1-249-419-11 1-249-421-11	CARBON CARBON	1.5K 2.2K	5% 5%	1/4W F 1/4W F
R476 R477	1-216-821-11		1K	5% 5%	1/10W	R728	1-249-421-11	CARBON CARBON	4.7K	5%	1/4W F
11111	. 2.0 021 11	WEITH OITH	<i>,</i> ,,,	0,0	., 1011	R729	1-249-429-11	CARBON	10K	5%	1/4W
R480	1-216-841-11	METAL CHIP	47K	5%	1/10W						
R504	1-216-864-11	METAL CHIP	. 0	5%	1/10W			< SWITCH >			
R506	1-216-809-11	METAL CHIP	100	5%	1/10W	0705	1 700 075 01	CWITCH KEVD	O 4 D D (D 4)	/ MODE /	2011
R507 R513	1-216-809-11 1-216-864-11	METAL CHIP METAL CHIP	100 0	5% 5%	1/10W 1/10W	\$725 \$726	1-762-875-21 1-762-875-21	SWITCH, KEYB SWITCH, KEYB			((חי
กษาจ	1-4 10-004-11	WIL IAL VAIF	U	J /0	1/1044	S727		SWITCH, KEYB			
R514	1-216-864-11	METAL CHIP	0	5%	1/10W	S728		SWITCH, KEYB			
R516	1-216-864-11	METAL CHIP	0	5%	1/10W	S729	1-762-875-21	SWITCH, KEYB	OARD (>>	(CD))	
R539	1-216-793-11	METAL CHIP	4.7	5%	1/10W	******	******	******	*****	*****	*****
R540	1-216-834-11	METAL CHIP	12K	5% 5%	1/10W						
R611	1-216-817-11	METAL CHIP	470	5%	1/10W						
R632	1-216-813-11	METAL CHIP	220	5%	1/10W						
R636	1-216-813-11	METAL CHIP	220	5%	1/10W						
R651	1-216-845-11	METAL CHIP	100K	5%	1/10W]		The compo	nents identi	fied by m	ark ∆ or
								dotted line w	rith mark ∆ a	re critical	for safety.
								Replace onl	y wildi part n	uniber spe	cilled.

Ref. No.	<u>Part No.</u>	Description MISCELLANEOUS ************************************	<u>Remarks</u>
∆ 6	1-775-787-41	CORD, POWER	
63 - 106	1-823-923-11 1-782-755-11	WIRE (FLAT TYPE)(21 CORE) WIRE (FLAT TYPE)(25 CORE)	
100	1-782-545-11	WIRE (FLAT TYPE)(25 CORE)	
108	1-823-922-11	WIRE (FLAT TYPE)(11 CORE)	
501	1-823-651-11	CABLE, FLEXIBLE FLAT (32 CORE)	
 ∆ 503	8-583-104-01	OPTICAL PICK-UP (KRM-220CAA)	
* 509	1-452-958-11	MAGNET (CHUCKING)	
602	1-782-817-11	WIRE (FLAT TYPE)(16 CORE)	
 ∆607	A-4735-189-A	OP ASSY (A-MAX.4T)	
M101	1-763-802-11	MOTOR, DC (SPINDLE)	
M151	1-541-632-12	MOTOR, DC (LOADING)	
M201	A-4735-557-A	MOTOR ASSY (LOADING)	
△ TR900	1-439-733-11	TRANSFORMER, POWER	
******	*********	***********	*****
		ACCESSORIES	

ACCESSORIES

<u> </u>	1-477-901-11 1-770-019-51 1-790-735-12 4-228-696-01 4-246-076-11	COMMANDER, STANDARD (RM-R52) ADAPTOR, CONVERSION PLUG (UK) CORD, CONNECTION BATTERY, COVER (FOR RM-R52) MANUAL, INSTRUCTION (ENGLISH)
	4-246-076-21	MANUAL, INSTRUCTION (FRENCH)(AEP)
	4-246-076-31	MANUAL, INSTRUCTION
		(GERMAN, DUTCH, SWEDISH) (AEP)
	4-246-076-41	MANUAL, INSTRUCTION
	,	(SPANISH, ITALIAN, PORTUGUESE) (AEP)
	4-247-861-11	MANUAL, INSTRUCTION
		(DANISH,FINNISH)(AEP)
	4-247-861-21	MANUAL, INSTRUCTION (PORTUGUESE)(AEP)
		, , , , , , , , , , , , , , , , , , ,
	4-247-861-31	MANUAL, INSTRUCTION (RUSSIAN)(AEP)
	4-247-861-41	MANUAL, INSTRUCTION (GREEK)(AEP)
	4-247-861-51	MANUAL, INSTRUCTION \
		(CZECH,HUNGARIAN)(AEP)
	4-247-861-61	MANUAL, INSTRUCTION (TURKISH)(AEP)
	4-247-861-71	MANUAL, INSTRUCTION (SLOVAK)(AEP)